Social Capital and Conflict

Impact and Implications

Alia Jane Aghajanian

A thesis presented for the degree of
Doctor of Philosophy

Institute of Development Studies
University of Sussex
United Kingdom
December 11, 2016

Statement

I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

Signature:

Date:

Acknowledgements

Dad, your stories of our family inspired me to do this research. I hope that one day we can return to Palestine. Mum, thank you for all your support and encouragement from beginning to end.

Aunty Anna, this all started with me sitting in your kitchen asking if I should apply for the PhD position — your answer was "Why not?". Over the last few years a few answers to that question have come up, but nothing beats this feeling of accomplishment today, so thank you.

Brighton, you have brought me a new family, one that has nurtured me throughout this PhD and I am sure beyond. To Eric, Yashodhan, Aditya, Poppy, Beth, Jenny, Marjoke, Marika and Tisa, I love you and cherish you, I am so grateful for your kindness.

My supervisors, Patricia Justino, Jean–Pierre Tranchant and Jaideep Gupte, you have put up with all the nonsense, thank you for helping me turn that into this thesis!

I would not have been able to commit to this PhD without TAMNEAC, a European Commission funded Training and Mobility Network for the Economic Analysis of Conflict. My fieldwork, the most enjoyable part of my PhD, was funded through parts of this research grant.

I am forever indebted to the kind people who made the household survey a success in Lebanon. Bassem Chit, you have gone too soon but you will not be forgotten. Rabih Fakhri and Hisham Esper, I would not have been able to pull this off without you. Nael Abou Siam and Hassan Salem, your dedication, positive attitudes and resourcefulness made the survey a successful and enjoyable experience for me. Hana al Sharif, Mohamed Abu Hiat, Faten Suleiman, Rania al Qassem, Ahmad Shawa, Nadia Abu Ali, Nahid Yassin, Wisam Altouki, Mona Abu Harb, Hiba Zaid, Amal Mahmod, Mona Saleh, Amani Abu Ali, and Amir Al Wanii you did your job so well, showing me your world as we navigated the neighbourhoods of Beddawi and Nahr el–Bared.

Finally, I am grateful for the cooperation of respondents, both in Lebanon and Maharashtra. The time, effort and patience that you so gracefully provided to us will not be forgotten, and I hope this thesis serves as a partial record of your stories.

Summary

Name: Alia Aghajanian
Title: Social Capital and Conflict: Impact and Implications

This thesis explores the relationship between social capital and conflict in two different contexts, by answering the following two questions:
How does exposure to violence affect social capital in urban Maharashtra, India?
How does returning home affect social capital amongst internally displaced persons and returnees from Nahr el Bared camp in North Lebanon?
This thesis then goes on to look at the labour market implications of returning home to Nahr el Bared camp, exploring the role of social capital (amongst other mechanisms) in this relationship. The following paragraphs are abstracts from the three empirical chapters that address these questions.

The first empirical chapter explores the relationship between exposure to riots and social capital in urban Maharashtra. We exploit a panel dataset collected by the authors and apply a random effects model with lagged covariates to estimate an exogenous relationship between neighbourhood exposure to riots and four forms of social capital: membership in a group or organisation, trust in neighbours, participation in community discussions and participation in community festival preparations. Consistent with Bellows and Miguel's study of conflict and social capital (2009), we find that households living in neighbourhoods that experienced a riot are more likely to be members of groups and organisations. On the other hand, we find that these households are less likely to join community discussions, which lends more to the hypothesis of fragmented post–conflict societies with a damaged social fabric (Colletta and Cullen, 2000). We explore various mechanisms behind these results and find that the increased membership in organisations is greatest in diverse neighbourhoods that have not experienced recent changes in composition. However, riots reduce trust and the likelihood of participation in fragmented and polarised riot–affected neighbourhoods. Riots also decrease participation in festival preparations in neighbourhoods where out–migration has been low. Our analysis suggests that individuals and households instrumentally use social capital to their advantage, a type of insurance to protect against potential communal violence in the future. However, riots can have adverse affects on different forms of social capital that go beyond the surface

level of social networking to feelings of trust and sense of community.

The second empirical chapter studies the effect of returning home after conflict induced displacement on social capital, compared to remaining displaced. I have collected a household survey of displaced Palestinians from a refugee camp in Lebanon, and this chapter assesses the impact of return on the different dimensions of social capital based on a diverse and rich set of questions. An instrumental variable is used to model the return decision in one part of the camp, and the exogenous nature of return is exploited in another section of the camp. Results show that return can improve social capital if households return within one year of the war ending and with their friends and family. If households have been displaced for too long, then social capital is decreased upon returning home. This indicates that social capital is not simply carried over from displacement to return, but is rebuilt in a process that takes time and effort.

The third and final empirical chapter studies the effect of returning home on labour market outcomes. Theoretically the effect of return is ambiguous, depending on changes in both the demand and supply of labour. I empirically study the effect of return on four labour market outcomes: participation in the labour force, working, wages and number of days worked. I analyse a dataset of individuals originally from Nahr el–Bared camp in North Lebanon, displaced within Lebanon after a war in 2007 between the Lebanese army and Fatah al–Islam. I use an instrumental variable and exploit the exogenous nature of the return process in order to estimate a causal effect of return. The results show that return increases the likelihood of working by 117 percentage points. This effect is greatest for those who have returned within two years, reaping the benefits of greater aggregate demand as the market increases. Women returnees are more likely to be working compared to the displaced, but there is no difference in employment between men who have been displaced and those who have returned. This could be because women possess skills that are adaptable in labour markets, working in cottage type industries from home, as opposed to the more specialised skills that men tend to possess.

Contents

List of Acronyms **6**

List of Figures **7**

List of Tables **9**

1 Introduction **14**
1.1 Contributions of thesis . . . 17
1.2 Social capital . . . 19
1.2.1 Overview of social capital literature . . . 20
1.2.2 Conflict and Social Capital . . . 24
1.2.3 Lessons from the literature . . . 27
1.3 Outline of remainder of thesis . . . 29

2 Field work and data collection **30**
2.1 Maharashtra . . . 31
2.2 Nahr el–Bared camp in Lebanon . . . 32
2.2.1 Sampling Strategy . . . 32
2.2.2 Data Collection and Tracing Households . . . 33
2.2.3 Using tablets for data collection . . . 35
2.3 Conclusion . . . 36

3 Riots and social capital in urban Maharashtra **41**
3.1 Introduction . . . 43
3.2 Conceptual Discussion . . . 46
3.3 Context . . . 47
3.4 Data . . . 50
3.4.1 Data collection . . . 51
3.4.2 Variables . . . 53
3.5 Identification strategy . . . 58
3.6 Results . . . 60
3.7 Mechanisms . . . 62
3.7.1 Social Diversity and Identity . . . 62
3.7.2 Out-migration . . . 69

3.8 Robustness Checks . . . 71
3.8.1 Correcting for attrition . . . 71
3.8.2 Looking at different types of social diversity . . . 71
3.8.3 Different measures of neighbourhood–level rioting . . . 72
3.9 Conclusion . . . 72
3.10 Appendix A: Tables and Figures . . . 74
3.10.1 Attrition . . . 76
3.10.2 Summary statistics . . . 77
3.10.3 Test of orthogonality of vignette character assignment . . . 81
3.11 Appendix B: Main Results . . . 83
3.12 Appendix C: Robustness Checks . . . 95

4 Making and breaking social capital 99
4.1 Introduction . . . 101
4.2 Conceptual Framework . . . 104
4.3 Context . . . 105
4.3.1 Nahr el–Bared camp . . . 105
4.3.2 War in 2007 and displacement . . . 106
4.3.3 Return process . . . 107
4.4 Data collection and data . . . 109
4.4.1 Social Capital . . . 110
4.5 Identification Strategy . . . 112
4.5.1 Section A . . . 115
4.5.2 Section B . . . 115
4.6 Results . . . 118
4.7 Mechanisms . . . 120
4.8 Robustness Checks . . . 122
4.8.1 Controlling for connections and trust in local forces . . . 122
4.8.2 Excluding those who do not want to return . . . 123
4.8.3 Increasing sample size by excluding trust variables . . . 123
4.8.4 Combining section A and B into one sample . . . 123
4.9 Conclusion . . . 124
4.10 Appendix A: Figures . . . 126
4.11 Appendix B: Tables - Descriptive Statistics . . . 129
4.12 Appendix C: Tables - Regression Results . . . 134
4.13 Appendix D: Tables - Robustness checks . . . 142
4.14 Appendix E: Variables from Questionnaire . . . 151

5 The labour market returns to returning home 154
5.1 Introduction . . . 156
5.2 Conceptual Discussion . . . 160
5.3 Context . . . 165
5.4 Data collection and Data . . . 165

5.5 Identification Strategy . . . 168
5.5.1 Section A . . . 169
5.5.2 Section B . . . 169
5.5.3 Regression specifications . . . 171
5.6 Results . . . 173
5.7 Mechanisms and Channels . . . 174
5.7.1 Timing of return and population size . . . 175
5.7.2 Construction sector . . . 176
5.7.3 Social capital . . . 176
5.7.4 Gender and skilled work . . . 177
5.7.5 Rejoining the labour force . . . 178
5.7.6 Quality of labour . . . 178
5.8 Robustness checks . . . 178
5.9 Conclusion . . . 179
5.10 Appendix A: Labour Demand and Supply . . . 181
5.11 Appendix B: Summary Statistics . . . 184
5.12 Appendix C: First stage regression results . . . 188
5.13 Appendix D: Main Results . . . 189
5.14 Appendix E: Mechanisms . . . 191
5.15 Appendix F: Robustness Checks . . . 202

6 Conclusion **208**

Bibliography **212**

List of Acronyms

DDR	Disarmament, Demobilisation and Reintegration
IDPs	Internally Displaced Persons
IDS	Institute of Development Studies
IT	Information Technology
IV	Instrumental Variable
LD	Labour Demand
LS	Labour Supply
NBC	Nahr el–Bared Camp
NGO	Non–Governmental Organisation
ODK	Open Data Kit
OLS	Ordinary Least Squares
PAPI	Paper and Pencil Interviewing
UN-Habitat	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East

List of Figures

2.1 Hand drawn map of sample neighbourhood in Jalgaon–Jamod, Buldhana district . . . 38
2.2 Dhule, Maharashtra . . . 38
2.3 Field supervisor asking current residents information about the previous residents . . . 39
2.5 Graffiti in Nahr el–Bared camp which translates as, "Smile, we have returned to you Nahr el–Bared." . . . 39

3.1 Hindu–Muslim riots in Maharashtra — Killed, Injured, Arrested 1950–1995. (Number of riots in each year shown in parentheses). Graph was compiled by the authors and is based on a dataset collected by Varshney and Wilkinson who screened the Mumbai edition of the Times of India for communal violence events (Wilkinson, 2004; Varshney, 2002). . . . 74
3.2 Number of riots in Maharashtra per month, from January 2008 to January 2012 . . . 75
3.3 Proportion of self-reported riots in each neighbourhood . . . 79
3.4 Belonging to an organisation . . . 87
3.5 Trust in neighbours . . . 87
3.6 Participates in community discussions . . . 88
3.7 Participates in festival preparation . . . 88
3.8 Conditional impact effect of match on willingness to give . . . 93
3.9 Impact effects of riots on social capital conditional on out–migration (with 95% CI) . . . 95
3.10 Using different cut–offs for neighbourhood level riots . . . 98

4.1 Map of NBC. Source: Group (2012) . . . 126
4.2 Area of initial displacement (author's dataset). . . . 126
4.3 Households stay during displacement (author's dataset). . . . 127
4.4 Maps of Nahr el–Bared camp. Both from Nahr el–Bared reconstruction committee for civil action and studies. . . . 127
4.5 Return Process . . . 127
4.6 Year of return (from author's dataset). . . . 128

5.1 Labour market demand and supply . . . 181

5.2 Population changes (decrease in initial post–conflict stages and then increase with each wave of returnees) — shifts of labour supply curve 181
5.3 Market size (decrease in aggregate demand in initial post–conflict stages and then increase with each wave of returnees)— shifts of labour demand curve 182
5.4 Construction sector — upward shift of labour demand curve 182
5.5 Norms and attitudes: Shifts of female labour supply curve 182
5.6 Demand for adaptable skills — upward shift of female labour demand curve, downward shift of male labour demand curve 183
5.7 Rejoining labour market: upward shift of labour supply curve 183
5.8 Quality of labour: change in slope of labour demand 183
5.9 Unemployment by age group 185
5.10 Occupation 185
5.11 Activity sector 185
5.12 Labour market descriptive statistics 186

List of Tables

2.1 Population and sample size by strata . . . 40
2.2 Sampling strategy at strata . . . 40

3.1 Summary statistics of newspaper reported riot data . . . 76
3.3 Differences in socio–economic characteristics (2010) between tracked and not tracked households . . . 76
3.4 Description of social capital variables . . . 77
3.5 Summary statistics of social capital variables . . . 78
3.2 Reason household was not re–interviewed . . . 79
3.6 Differences in social capital variables separated by whether at least 30% of neighbourhood reports a riot . . . 79
3.7 Occurrence of riot related events in neighbourhood and subsequent actions by respondents in 2010 . . . 80
3.8 Summary statistics of respondent experience of a riot . . . 81
3.9 Summary statistics of independent variables . . . 81
3.10 Test of orthogonality . . . 81
3.11 Effect of riot on social capital . . . 83
3.12 Effect of riot interacted with social diversity on social capital . . . 85
3.13 Effect of riot on social capital separating by those who belong to majority and minority . . . 89
3.14 Dependent Variable: Willingness to give . . . 91
3.15 Effect of riot interacted with out–migration on social capital . . . 93
3.16 Heckman first stage: Probit model . . . 95
3.17 Heckman second stage: Effect of riot on social capital . . . 96
3.18 Robustness checks: Different measures of social diversity . . . 97

4.1 Original distribution of population amongst section A and B . . . 129
4.2 Weights of social capital variables from factor analysis . . . 129
4.3 Differences in social capital by return in section A and section B . . . 129
4.4 Summary statistics of control variables . . . 130
4.5 Differences in trust of local forces and Lebanese army between section A and section B . . . 130
4.6 Difference in social capital indexes for displaced from section A and section B . . . 130

4.7 Pre–war differences between section A and section B. 131
4.8 Pre–war differences between displaced and returnees (section A) 131
4.9 Pre–war differences between households with destroyed and not destroyed dwellings (section B) 131
4.10 First stage results 132
4.11 First stage regression summary statistics 132
4.12 Difference in return of friends and family for section A and section B returnees 132
4.13 Years of displacement for returnees in sections A and B 133
4.14 Difference in years since return between section A and section B returnees 133
4.15 Reduced form: Impact of return on social capital 134
4.16 Impact of return on social capital — part 1 134
4.17 Impact of return on social capital — part 2 136
4.18 Impact of return on social capital including return of family and friends . . 137
4.19 Effect of timing of return on social capital in section B 139
4.20 Impact of return on social capital including furniture as proxy for settling down 140
4.21 Weights of social capital variables from factor analysis, excluding connections with UNRWA and camp popular committee 142
4.22 Weights of social capital variables from factor analysis, excluding trust of local forces and the Lebanese army 142
4.23 Impact of return on social capital excluding trust in Lebanese army and local forces 144
4.24 Impact of return on social capital excluding connections with UNRWA and camp popular committee 145
4.25 Reasons for not wanting to return home. Source: Author's dataset. 147
4.26 Impact of return on social capital excluding those who do not want to return 147
4.27 Weights of social capital variables (excluding trust) from factor analysis . . 149
4.28 Impact of return on connections and interactions in sections A and B . . . 149
4.29 Impact of return on social capital on full sample - OLS 150
4.30 Description of variables used in chapter 151

5.1 Dependent Variables 184
5.2 Summary statistics: Employment 184
5.3 Differences in employment variables by gender 187
5.4 Return status 187
5.5 Differences in employment variables by return in section A and section B . 187
5.6 Summary statistics of controls 188
5.7 Linear probability model first stage results 188
5.8 First stage regression summary statistics 188
5.9 Reduced form regressions: Effect of return on labour market outcomes . . 189
5.10 Effect of return on labour market outcomes 189
5.11 Number of years of displacement for returnees in sections A and B 191

5.12 Effect of timing of return on labour market outcomes in section B 191
5.13 Effect of return on labour market outcomes with proxy for market size . . 193
5.14 Differences in employment in construction sector by return in section A and section B 194
5.15 Effect of return on labour market outcomes controlling for social capital . . 195
5.16 Probit model: Effect of return on labour market outcomes for female sample 197
5.17 Probit model: Effect of return on labour market outcomes for male sample 197
5.18 Differences in skilled work by return in section A and section B 198
5.19 Differences in education by return in section A and section B (those younger than 23) 199
5.20 Effect of return on labour market outcomes excluding those younger than 23 200
5.21 Effect of return on labour market outcomes excluding those who do not want to return 202
5.22 Effect of return on labour market outcomes for one sample 203
5.23 Effect of return on labour market outcomes controlling for contacts 204
5.24 Effect of return on labour market outcomes controlling for wealth 205

Chapter 1

Introduction

This thesis answers three research questions of utmost relevance in our world today, in which the level of civil violence and the number of refugees and internally displaced persons (IDPs) has reached levels not seen since World War II (UNHCR, 2014). My first research question is "How do households change their investments in social capital in response to experiencing a riot and communal violence?" My second research question asks "How does returning home after conflict–induced displacement affect social capital?" And my last research question asks "What is the impact of returning home after conflict induced displacement on individual labour market outcomes?" As I explain in the following, these research questions are insufficiently addressed by current academic literature, and this thesis contributes to filling this academic gap, with important implications for the growing world–wide refugee and IDP crisis.

The first part of my thesis is situated in Maharashtra, India. Riots in Maharashtra bring back memories of the extensive violence that took place between 1992 and 1993, following the demolition of Babri mosque in Uttar Pradesh. Nine hundred people lost their lives, thousands were injured, and thousands more fled from the violence and looting in the streets (Srikrishna, 1998). Today, riots are still prevalent and endemic in urban Maharashtra. In 2010, one in five households in the sample under study reported at least one riot taking place within their neighbourhood, 12.6% of the sample report being a victim of a riot, with some suffering physical and economic damage as a result (Gupte et al., 2014). Chapter 3 analyses how experience of a riot in a household's neighbourhood can affect social capital, and in addition we consider how this relationship can be conditional on certain neighbourhood level variables. We exploit a panel dataset collected by myself and co–authors, and apply a random effects model with lagged covariates to estimate an exogenous relationship between neighbourhood exposure to riots and forms of social capital.

The second part of my thesis takes me back home to Lebanon. Here the context is Nahr el–Bared camp (NBC), a Palestinian refugee camp set up in 1949. In May of 2007, fighting broke out in the camp when members of Fatah al–Islam stole money from a bank near Tripoli, and hid in apartments in the area. Fatah al–Islam is an Islamist militia who was able to reside in NBC due to the absence of Lebanese security and intelligence within the camp. The Lebanese armed forces raided these apartments killing several militants (Ramadan, 2009). In retaliation, members of Fatah al–Islam attacked an army base outside the camp, brutally killing ten Lebanese soldiers. The Lebanese army then began shelling the camp, and a three–month long war ensued. 47 civilians were killed, 95% of buildings in one part of the camp were completely destroyed or damaged beyond repair, and the majority of households were forced to flee from their homes. The neighbouring Beddawi refugee camp hosted a large number of the 'internally displaced refugees', and the remaining families were displaced to various parts of the country, the majority remaining in North Lebanon. Since the initial displacement, 22.54% of households had returned home at the time of this study. Chapters 4 and 5 use an instrumental variable and exploit the exogenous nature of the return process to estimate the impact of return on social capital and labour market outcomes.

In both Maharashtra and Lebanon I was involved in the data collection of two household surveys that were collected in order to answer the research questions under study. The data collection is further detailed in chapter 2. In the following paragraphs I summarise the results of each of my empirical chapters.

Chapter 3 explores the relationship between exposure to riots and four forms of social capital: membership in a group or organisation, trust in neighbours, participation in community discussions and participation in community festival preparations. In accordance with Bellows and Miguel's study of conflict and social capital (2009), we find that households living in neighbourhoods which experienced a riot are more likely to be members of groups and organisations. On the other hand, we find that these households are less likely to join community discussions, which lends more to the hypothesis of fragmented post–conflict societies with a damaged social fabric (Colletta and Cullen, 2000). We explore the various mechanisms behind these results and find that the increased membership in organisations is greatest in diverse neighbourhoods which have not experienced recent changes in composition. However, riots reduce trust and the likelihood of participation in fragmented and polarised riot–affected neighbourhoods. Riots also decrease participation in festival preparations in neighbourhoods where out–migration has been low. Our analysis suggests that individuals and households instrumentally use social capital to their advantage, a type of insurance to protect against potential communal violence in the future. However, riots can have adverse effects on different forms of social capital that go beyond the surface level of social networking to feelings of trust and sense of community.

Chapter 4 studies the effect of returning home after conflict induced displacement on social capital, compared to remaining displaced. Results show that return can improve social capital if households return within one year of the war ending and with their friends and family. If households have been displaced for too long, then social capital is decreased upon returning home. This indicates that social capital is not simply carried over from displacement to return, but is rebuilt in a process that takes time and effort.

Chapter 5 studies the effect of returning home on labour market outcomes. Theoretically the effect of return is ambiguous, depending on changes in both the demand and supply of labour. I empirically study the effect of return on four labour market outcomes: participation in the labour force, working, wages and number of days worked. The results show that return increases the likelihood of working by 117 percentage points. This effect is greatest for those who have returned within two years, reaping the benefits of greater aggregate demand as the market increases. Women returnees are more likely to be working compared to the displaced, but there is no difference in employment between men who have been displaced and those who have returned. This could be because women possess skills that are adaptable in labour markets, working in cottage type industries from home, as opposed to the more specialised skills that men tend to possess.

1.1 Contributions of thesis

This thesis contributes two new datasets, one collected in Maharashtra, India, as a second wave of a panel survey, and the other collected amongst Palestinian refugees from Nahr el–Bared camp in North Lebanon. These two datasets contain invaluable information on social capital and household economic characteristics, including contributions to the labour market, household expenses and household assets. In addition to these datasets, here I outline the academic contributions of the three empirical chapters, in terms of contributions to at least five bodies of literature.

1. The effects of return after conflict induced displacement:

The current gap in this literature is due to a lack of available data — displaced households are by nature difficult to locate and there is a potential selection bias involved when dealing with displacement and subsequent return (Deininger et al., 2004). Some studies have tried to find a way around this challenge, by comparing returnees with 'stayers', or those who were never displaced to begin with. Fiala (2015) and Verwimp and Muñoz Mora (2013) have found that returnees lag behind stayers in terms of calorie intake, poverty and household welfare. In contrast, Kondylis (2008) finds that returnees actually outperform stayers in agricultural productivity, but this could be a short term impact of returnees trying to catch up. By comparing households who have been displaced to 'stayers', the impact of return is not isolated, but confounded with the displacement effect. In order to better evaluate the return policy, returnees should be compared to those who are still displaced, rather than those who were never displaced in the first place. Bozzoli et al. (2011) are able to avoid this confounding effect and find that returnees, compared to IDPs, are less likely to work in trading and more likely to make handicrafts and participate in a wider range of activities. However, their empirical strategy relies on the household head's experience of conflict, another factor which has been confounded with the return effect.

Chapters 4 and 5 vastly improve on current datasets and identification strategies by a) utilising a unique dataset that is representative of all households prior to the displacement and b) causally estimating the impact of return through the exogenous nature of the return process. Because the residents of NBC were originally registered with a UN agency, it was relatively easy to track down households who were displaced around the country (the details of the data collection are explained in the next chapter). In addition, as the movement of Palestinians in Lebanon is restricted to within the country (as was their displacement), I am certain of capturing a representative sample of households living in NBC prior to the war. I am also able to causally identify the impact of return by exploiting the exogenous return process in section A and an instrumental variable (the damage level of the original dwelling) in section B of NBC.

Most importantly, previous studies have not estimated the effect of return on social capital, a key factor for post–conflict peace–building and reintegration (Varshney, 2001). In addition, while Bozzoli et al. (2011) compare the activity choices of returnees and IDPs, there is still little understanding of how return can affect labour market outcomes,

in particular participation in the labour force, finding work, wages and number of days worked per week. Chapters 4 and 5 will contribute to this gap in the literature.

2. Effect of displacement on labour market outcomes:

Understanding how labour markets are affected by displacement is an emerging literature in the conflict research. Kondylis (2010) found that displaced Bosnians are less likely to be working than Bosnians who were not displaced. Calderón et al. (2011) show that forced displacement in Colombia improves women's participation in the labour force, as IDPs find themselves in unfamiliar urban settings where women are more likely (than men) to possess the necessary experience for low–skilled urban work. Calderón and Ibáñez (2009) study the effect of forced migration on labour market outcomes in Colombia and find that immigration flows produce a negative impact on wages and employment opportunities for all workers (both displaced and "native" workers), and especially so for low–skilled workers. The informal sector expands as a result. Fernández et al. (2014) find that households living through certain shocks of violence and conflict increase their labour force supply as a coping strategy. Specifically, they find that men take most of this responsibility, and while time spent in agricultural work decreases, time spent in non–agricultural markets increases. Bozzoli et al. (2013) find that an increase in net displacement leads to an increase in the probability of becoming self–employed in Colombia. Self–employment is seen by the authors as a last resort, one that migrants turn to because of their limited social and professional networks.

This literature has not been able to identify the mechanism that causes a change in labour force outcomes, nor do they look at what happens to individuals once they return home. This is a large gap in the literature which has been insufficiently addressed so far. While testing the impact of returning home after conflict induced displacement, chapter 5 draws from the current state of the art by improving the instrumental variable approach of Bozzoli et al. (2011); empirically testing the mechanisms and hypotheses put forward by Kondylis (2010) and Bozzoli et al. (2013); observing heterogeneity by gender, as in Calderón et al. (2011) and Calderón and Ibáñez (2009); focusing on skilled labour similarly to Calderón and Ibáñez (2009); and looking at the supply of labour as a coping strategy, as described by Fernández et al. (2014).

In addition, chapter 5 includes a contribution to the literature that studies the relationship between social capital and labour market outcomes. This literature started with Granovetter's seminal study on the importance of weak ties (Granovetter, 1974), and there has since been an abundance of literature that shows how social networks and social capital improve the chances of finding work and increase wages (Montgomery, 1991; Munshi, 2003; Calvó-Armengol, 2004; Calvó-Armengol and Zenou, 2005; Wahba and Zenou, 2005; Buerkle and Guseva, 2002; Knight and Yueh, 2008). Chapter 5 finds that while social capital plays a role in the probability of working, wages and number of days worked per week, it is not the channel behind the change in labour market outcomes upon return.

3. The formation of social capital:

This thesis also makes an important contribution to the literature on the formation of social capital (Axelrod and Hamilton, 1981; Bowles and Gintis, 2011; Gambetta, 1988; Alesina and La Ferrara, 2002; Glaeser et al., 2002). Chapter 3 shows how social capital in urban areas depends on the context under which different populations live. Notably, social capital is shaped by the exposure of households to violence in their communities and to community levels of polarisation, fractionalisation and out–migration. In chapter 4 I show how the formation of social capital takes time and effort and is not simply carried over during displacement and return.

4. Diversity and social capital:

Chapter 3 contributes to the literature on the provision of public goods in ethnically diverse societies. Several studies have shown that collective action that sustains the provision of public goods is more challenging in heterogeneous societies (Alesina and La Ferrara, 2005; Vigdor, 2004; Alesina et al., 1999; Alesina and La Ferrara, 2000; Miguel and Gugerty, 2005; Habyarimana et al., 2007). We show that social polarisation and fragmentation also affect the relationship between riots and social capital in informal settlements. Largely, riots reduce social capital in diverse neighbourhoods.

5. Social capital and conflict:

Finally, I contribute to the emerging literature that explores the relationship between social capital and conflict. On the one hand this literature has found that conflict can destroy the social fabric (Colletta and Cullen, 2000), decrease civic association (De Luca and Verpoorten, 2011) and create mistrust (De Luca and Verpoorten, 2011; Rohner et al., 2013; Cassar et al., 2013). On the other hand, older children exposed to conflict behave in more egalitarian ways (Michal et al., 2011), individuals exposed to civil conflict have higher civic association (Bellows and Miguel, 2009; Blattman, 2009), are more altruistic (Voors et al., 2012) and display more pro–social behaviour (Gilligan et al., 2014). A distinguishing feature of this thesis is that it unpacks social capital into different dimensions based on a diverse and rich range of social capital indicators. In addition, I explore various potential mechanisms that could explain how social capital changes, particularly how it is built up over time and depends on others in the social environment. In these two ways this thesis provides much needed insight into the complexity of the relationship between social capital and conflict, lending evidence to an exciting debate.

As a common thread to all empirical chapters of this thesis, social capital deserves to be discussed further in the next section.

1.2 Social capital

There is no doubt that conflict and violence are destructive to those involved: young lives are lost, assets destroyed, families displaced and livelihoods shattered. However, there is another aspect that researchers and practitioners in the conflict field often ignore, although probably it is most essential in understanding the dynamics of conflict and preventing any

further turmoil. Conflict is either caused by, or brings about, drastic changes in the underlying social relationships between members of a community involved in the conflict. As aid flows to post-conflict areas, rather than being a priority in order to prevent further escalation of conflict, social capital is often ignored.

Social capital allows us to understand certain economic phenomena that are not driven by classical economic theory. For example, strong social ties allow us to achieve goals that involve the cooperation and inputs of more than one player, leading to more effective outputs such as public goods, institutions, and community-level investments (Habyarimana, 2009), all of which are essential for economic development. When it comes to income shocks, social capital can be seen as a vital household coping strategy, not only in terms of financial support, but also in terms of solidarity and emotional support. Mutual insurance networks are common amongst households that are susceptible to income shocks (Fafchamps and Lund, 2003). Other studies have empirically shown the advantages of a more cooperative society: public institutions and public policies are more productive (Putnam et al., 1994b), growth rates increase (Fukuyama, 1996; Knack and Keefer, 1997), human productivity is greater (Dasgupta and Serageldin, 2002), high school drop–outs decrease (Coleman, 1988), and financial investments and networks increase (Harker et al., 1990). There are other benefits to cooperation and strong community ties, some less measurable, like personal satisfaction gained when greeting your neighbour as you leave your building, benefits that Sobel (2002) describes as valuable intrinsically.

In the context of conflict and post-conflict settings, a strong social fabric is even more crucial. Varshney (2001) shows that in multi-ethnic societies, if civic engagement (across two different communities or ethnic groups) is not present or weak, conflict is likely to flare up. Black and Gent (2006) explain that without proper reintegration into the former community, return of former refugees or IDPs is not sustainable, and can lead to further conflict and displacement.

As the importance of social capital has been realised, some recent studies on the consequences of violence and conflict on social capital have emerged, with contradictory results (see Bellows and Miguel (2009) and De Luca and Verpoorten (2011) for an example of two contrasting studies). This contradiction is mainly due to the different measures of social capital, the lack of differentiation between 'bonding' and 'bridging' social capital, and the questionable exogeneity of the variable that measures conflict.

Here I provide an overview of social capital, section 1.2.2 discusses the literature on social capital and conflict, and finally section 1.2.3 concludes with lessons from the current literature that have been applied to this thesis.

1.2.1 Overview of social capital literature

Classical economists saw land, labour and physical capital as the only three assets that generate income and foster economic growth. During the 1960s, the notion of human capital was also added to the mix (Becker, 1962; Portes, 1998), as education, training and

experience were found to increase productivity. However, the 'embeddedness' of social relations in economic relations was still not acknowledged.

This lack of acknowledgement brought to light a clear distinction between the way sociologists and classical economists view individual actors. Sociologists tend to lean away from the individualistic element, believing that individual behaviour is formed by society around him/her, through social norms, rules and obligations. On the other hand, classical economists view individuals as rational beings seeking to maximize their own utility without any regard for others, leading Granovetter (1985) to accuse economic studies of relying on the 'under-socialized concept of man'.

However, in more recent decades there has been a surge in popularity of social capital, as economists have realised that we cannot rely on physical and human capital alone, nor overlook the 'social embeddedness' of man. For example, aid channelled to physical capital such as roads, irrigation systems, and public facilities could turn to crumbling ruins in the absence of the social capital which is needed to maintain it Gibson et al. (2005). Or, the best education and training possible will still amount to nothing unless an individual has colleagues, clients, employees, and employers around him/her to discuss, disseminate, learn from, and assist his/her work (Woolcock, 1998). Societies that have emerged from conflict will find it difficult to reconstruct and redevelop without communication between warring parties.

Social capital can now be considered a third (after physical and human capital), and equally important, capital that provides tools and training to enhance productivity. "The core idea of social capital theory is that social networks have value. Just as a screwdriver (physical capital) or a college education (human capital) can increase productivity (both individual and collective), so too social contacts affect the productivity of individuals and groups (Putnam, 2000)." However, as social capital has interested scientists from an array of disciplines, this has led to an emergence of many different interpretations of the topic. Nevertheless, researchers have still been able to show that social capital, however defined, has an impact on development outcomes (Colletta and Cullen, 2000), be they education, household welfare, or crime rates, keeping social capital high up on the development and economics agenda. Here I try to uncover the origins of social capital, how they are analysed in the contemporary literature, and the problems associated with social capital.

The term social capital has been coined independently at least six times by academics and practitioners over the twentieth century (Putnam, 2000), meaning that not only is the definition of social capital debated, but its origins too. The earliest citation of social capital was in 1916, when Lyda Hanifan wrote a report on rural schools in West Virginia, claiming that in order for a school to be successful social capital is necessary. According to Hanifan, social capital is "those tangible substances [that] count for most in the daily lives of people: namely good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit (Hanifan, 1916)." Hanifan must have had good foresight, as this definition includes many of the different forms that have been labelled as social capital by researchers over the years. However, Portes (1998) asserts that

the general meaning of social capital is even older, and can be traced back to Durkheim's advocacy of group life and its benefits (Durkheim, 1915) and Marx's mobilized and effective 'class–for–itself'.

The first systematic analysis of social capital was brought by the French sociologist Pierre Bourdieu, who defined social capital as "the aggregate of the actual or potential resources which are linked to a possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition (Bourdieu, 1986)." Lacking a proper systematic explanation, this definition paved the way for the vague concept that we use today. Bourdieu's definition decomposes social capital into two elements: firstly social relationships, and secondly the resources that these relationships offer. His focus on the latter could be a way of trying to make the concept popular amongst economists, however this has led to one of the most important challenges that social capital theorists face today: separating social capital from the resources that it offers.

Next to tackle the subject was James Coleman, combining influences from two different fields, sociology and economics, to understand the relationship between educational achievement and social inequality. Coleman offered the following definition, "[social capital is] a variety of entities with two elements in common: They all consist of some aspect of social structures, and they facilitate certain action of actors whether persons or corporate actors within the structure (Coleman, 1988)."

Unlike Bourdieu, Coleman does acknowledge the fact that social capital can be harmful. Also unlike Bourdieu, Coleman saw the creation of social capital as an unintentional process, i.e. social capital arises out of activities meant for other purposes, and not for the sake of social capital itself. And while Bourdieu tended to focus on the social capital created by elitist groups, Coleman did not constrain social capital to this. However, Bourdieu and Coleman can both be faulted in that they failed to differentiate between the resources made available through social capital and social capital itself.

Offering a more systematic analysis than Bourdieu, Coleman explored several different forms of social capital: obligations and expectations, information potential, norms and effective sanctions, authority relations, appropriable social organization, and intentional organizations. Coleman also offers us different examples of social capital: the lack of formal insurance in a wholesale diamond market, student activist groups who have evolved from study groups, a mother feeling that it is safe for her children to play on the streets unwatched, and a market in Cairo where a system of obligations means that a fruit vendor will be able to sell leather (or point in the right direction).

Alongside Pierre Bourdieu and James Coleman, Robert Putnam is considered the farther of contemporary social capital studies. Putnam can be credited with making social capital popular not only in the academic arena, but in the policy arena too, with former US president George Bush senior making references to Putnam's work in a presidential speech. Putnam defines social capital as "the connections among individuals social networks and the norms of reciprocity and trustworthiness that arise from them (Putnam,

2000)." One of the more important contributions of Putnam's work is differentiating between bridging and bonding social capital. Whereas the former refers to social capital that brings together individuals from different and diverse social backgrounds, the latter refers to social capital that forms from the basis of these social backgrounds, such as a bible reading group. Bonding social capital brings people together and encourages certain norms and strengthens identity, whereas bridging social capital can blur social divisions, as well as allow for better linkage to external assets and diffusion of information. Having strong bridging social capital is an important peace-building mechanism and is crucial in post-conflict or multi-ethnic societies (Varshney, 2001).

Robert Putnam's work drew a lot of criticism, mainly in that his definition of social capital was limited to organizational affiliation. While it is an important aspect, it is not the only form of social capital, and various other forms also need to be explored. Although membership in organizations might have decreased in the US (Putnam, 2000), individuals can also resort to other forms of social capital, such as social media, networking, and cooperation.

While these three main players created the stage for social capital, a number of theoretical analyses and definitions have since emerged. Loury et al. (1977) claimed that prohibiting racial discrimination in the work place could not completely eliminate racial inequalities, rather the legacy of a lack of connection of minorities to the job market and information about opportunities would remain. In short, it was the lack of social capital and not employers that was causing a discrepancy in salaries. Baker (1990) defined social capital as "a resource that actors derive from specific social structures and then use to pursue their interests, it is created by changes in the relationships among actors". Schiff (1992) defines it as "the set of elements of the social structure that affects relations among people and are inputs or arguments of the production and/or utility function". Moving more towards the idea of social networks, Burt (2005) defines social capital as "friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital". Burt also emphasizes the importance of 'holes' in social networks, or the 'strength of weak ties' (Granovetter, 1974). Grootaert and van Bastelaer (2002) differentiate between cognitive and structural social capital, the former referring to generally accepted attitudes and norms of behaviour, shared values, reciprocity, and trust; and the latter to the visible forms of social structures such as networks, associations, and institutions, and the rules and procedures that they embody similar to the definition offered by (Uphoff, 2002). Sobel (2002) defines social capital as circumstances where individuals can use their membership in certain groups and networks to secure benefits.

At this point it is clear that the analysis is plagued by a number of problems. First, there is a convenience and tendency in equating outcomes of social capital with social capital itself, leading to tautological statements where "a successful group succeeded because it had social capital, but the evidence that the group has social capital is its success (Sobel, 2002)". This has caused a disagreement as to whether social capital refers to the infrastructure that builds social capital, such as associational membership and social

networks, or the norms that result from it, such as trust and reciprocity.

A second concern with the usage of social capital — that seems to have mainly irked economists — comes from the term itself. Is social capital really a capital? In order for social capital is to be a 'capital' it should have characteristics in common with other forms of capital (physical and human capital) such as depreciation with use (Ostrom, 2001), deliberate sacrifice in the present for future benefit (investment) (Arrow, 2001), and fungibility. Firstly, social capital does not depreciate with use, in fact, as social bonds become older, the accessible resources become larger. For example, an old school friend might be more likely to go the extra mile to help out. However, if social connections are severed, does social capital then depreciate through disuse? Secondly, investment in social capital need not be a 'sacrifice'. While social capital can be a rich resource that provides numerous economic benefits, the value of social capital is intrinsic (Sobel, 2002), in most cases it is accumulated for the joy it brings. Lastly, social capital is not easily transferable, as it is difficult to put an economic value on it. In addition, unlike physical capital, social capital requires the input of more than one player.

I would argue that many of these objections also apply to human capital. For example, skills and knowledge will only increase with use, as 'practice makes perfect'; while if not practiced or used these skills will become rusty or forgotten. Also, individuals might invest in human capital for the intrinsic value that education and knowledge brings, rather than future profits. And lastly, some of the benefits of human capital will not be realized without the involvement of others; for example, there is no benefit in learning a new language while living in a community that does not speak this language.

The last problem relating to the analysis of social capital is that of its definition. As evident above, the definition of social capital has slowly mutated from its original meaning to become a vague term that often encompasses so many concepts that its distinct nature is no longer distinct (Portes, 1998). Despite this ambiguity, "the consensus is growing in the literature that social capital stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures (Portes, 1998)." As different scientists have explored social capital they have added on different concepts and forms to the mix, from collective action to norms of trust and reciprocity. Dasgupta and Serageldin (2002) and Grootaert and van Bastelaer (2002) have advocated the multi-faceted nature of social capital, as the different dimensions of social capital can have different effects on outcome variables, and it is important that we explore each of these dimensions independently. This is the approach used in this thesis.

1.2.2 Conflict and Social Capital

The relationship between conflict and social capital is ambiguous. On the one hand, we would expect that conflict increases social tension and decreases trust. As reports of violence are spread, individuals will be wary of others, cooperation is likely to decrease, and community members become divided (Colletta and Cullen, 2000). On the other hand,

we could expect conflict and violence to force individuals to rely and depend on each other. Social ties and capital might be formed on the basis of solidarity in the face of an external threat. For this reason, while bridging social capital might decrease, bonding social capital will increase (Gilligan et al., 2014). I.e. members of the same neighbourhood, village, ethnic group or religion might show more inter-group social capital but less out-group social capital.

The literature on social capital is quite new and the debate is still ongoing, with studies reaching contradictory results. Some research has showed that the experience of violence and conflict increases forms of social capital, while others have suggested negative causal links between conflict and social capital. These contradictions are due to the different measures of social capital under study, as well as various challenges to the independence of the conflict variable.

For example, De Luca and Verpoorten (2011) find that during times of conflict in Uganda, associational membership and self-reported trust decreases, but there is evidence for recovery. This might not necessarily reflect a deteriorating social fabric, rather the fact that during times of conflict, transportation to meetings will be difficult, clubs and organizations might have to discontinue due to security issues, and individuals are too preoccupied with the situation around them. The authors also measure trust with one simple question: "Generally speaking, would you say that most people can be trusted or that you must be very careful when dealing with people?" This is not a robust enough variable to measure trust, the question should be asked with subtlety, and several questions revolving around trust should be included rather than just one in order to decrease any problems cause by measurement error and noise. Also, this question does not reflect the fact that while members of the Lord Resistance Army might trust each other, they might not trust members of the Allied Democratic Forces, for example. This could potentially ignore a fundamental problem in the social fabric of this post-conflict society. Similarly, Muller and Vothknecht (2011) find that participation in certain organizations decreases in areas that are affected by conflict.

Using two comparative case studies, Colletta and Cullen (2000) show that violence weakens social capital and the social fabric of a community, divides community members, undermines interpersonal trust and collective action, destroys norms and values, and if not addressed can lead to more communal strife. Pinchotti and Verwimp (2007) show a similar story with qualitative evidence. Using a household survey and experimental games in post-war Tajikistan, Cassar et al. (2013) show that exposure to conflict decreases trust and perceptions of fairness within communities, as well as willingness to engage in impersonal exchange, and reinforces kinship based norms.

Humphreys and Weinstein (2007) use a sample of ex-combatants to evaluate a disarmament, demobilization and reintegration programme (DDR) and find that previous participation in abusive military factions during the civil war in Sierra Leone make it more difficult for ex-combatants to reintegrate. Unfortunately, the authors are unable to solve the problems of spill-overs of the DDR programme, selection bias into the programme

and sampling bias of ex-combatants.

However, a greater number of studies is pointing in the direction of violence and conflict improving social capital, rather than destroying it. This research is motivated by the fact that a number of African countries have witnessed a rapid post war recovery not predicted by Solow growth models, which envisage per capita income slowly returning to its steady state. Social scientists have attributed this growth spurt to a societal reform and a change in social capital caused by conflict itself.

In fact, psychologists have found that when an individual faces thoughts of death, a chemical called neuropeptide oxytocin is produced, which could cause individuals to identify with their group and group values (Michal et al., 2011). Early scientists such as Charles Darwin thought that conflict caused certain societal reform, and Cramer (2006) claims that "violence destroys but is also often associated with social creativity." Although conflict might cause societal reform, this contributes to bonding social capital, rather than bridging social capital. For example, Michal et al. (2011) show that older children who have been more conflict afflicted are more likely to act in an egalitarian way towards members of their own group.

Similarly, Whitt and Wilson (2007) use experimental games to determine whether ethnic bias might affect attitudes on fairness in post-war Bosnia. They find that there is preferential in–group treatment, but the outward bias is not as large as expected, and a norm of fairness still exists. This article does not provide a direct or causal link between conflict and fairness, as we do not know how out-group bias and inter-group preference was before the war, or how it could change depending on an individual's experience of the war.

The remaining studies discussed below have failed to differentiate between bonding and bridging social capital, but have found a positive relationship between conflict and social capital. Bellows and Miguel (2009) find that individuals who directly experienced violence or conflict during the Sierra Leone civil war were more likely to participate in community and political groups, attend community meetings, vote in local elections and contribute to local public goods. The authors use a representative sample which includes self-reported victimization reports, information on the socio-economic situation of the household, as well as data about individual political engagement. However, despite several tests, the authors cannot completely rule out the fact that individuals who are more likely to be politically active, i.e. individuals who are opinionated or even aggressive, were more likely to be victims of conflict. This would bias the coefficient upwards, making it seem as if there is large effect of direct conflict experience on political and communal participation in later years.

Using experimental games, Voors et al. (2012) find that individuals who have been exposed to conflict are more altruistic towards their neighbours, risk seeking, and impatient. However, it is very difficult to isolate altruism from other social norms such as egalitarianism and fairness from the social value orientation experiment which offers participants

certain allocations of money between them and an anonymous partner. In order to address the endogeneity of exposure to violence and altruism, the authors instrument exposure to violence with the community's distance from the capital and its elevation.

Blattman and Annan (2010) show that former abducted child soldiers, compared to non-abducted children in Uganda, are significantly more likely to vote in later years, be community organizers, and hold a political leadership position. The case of Uganda is unique in that recruitment is exogenous, child soldiers were recruited in a haphazard and unpredictable manner. Because the counterfactual to ex-combatants is non abducted children, the authors cannot provide an impact of the war, rather the added impact of being recruited during the war. This does not decrease the importance of this study, as it has provided us with useful lessons concerning the reintegration of child soldiers into society after a conflict.

Also arguing that experiences of war in Nepal are unpredictable and thus exogenous, Gilligan et al. (2014) find that participants in experimental games who have had greater exposure to violence and conflict during Nepal's war are more likely to exhibit higher levels of social capital, as measured through trust and public good games. The authors also delve deeper into the mechanisms behind this change in social capital and find this difference to be explained by institutional adaptation and not a change in individual preferences and behaviour, as communities who have suffered conflict adopt more pro-social norms.

However, various articles have looked at how exposure to violence and traumatic events can change individual preferences and behaviour, often with long-lasting effects. Individuals who have experienced a trauma or tragic event, such as health problems, divorce, or financial losses, are less likely to trust others (Alesina and La Ferrara, 2002); football players who originate from a country of civil war receive a larger number of yellow and red cards than football players from peaceful countries (Miguel et al., 2011); people living in areas that experienced damage and destruction by hurricane Mitch are more altruistic and cooperative in the 'Dictator game' (Castillo et al., 2011); and children who have been exposed to war report lower levels of happiness and a constant fear of losing their home and family (Dyregrov et al., 2002).

1.2.3 Lessons from the literature

The first important lesson is that one cannot incorporate all forms of social capital under one heading, rather we need to separate and narrow down our measurements to achieve meaningful results. In addition, we need to differentiate between bonding and bridging social capital. An increase in bonding social capital can be dangerous, and combined with a decrease of bridging social capital it is a recipe for further escalation (or re-escalation) of violence (Varshney, 2001). In chapter 3 we study the effect of riots on four social capital variables: membership in groups or associations, trust in neighbours, participation in community discussions, and participation in community festival preparations. In addition, we study how this relationship can be dependent on the fractionalisation and polarisation

of the neighbourhood, as well as uncover the salience of social identities through vignette analysis. In chapter 4, I combine a range of social capital variables using factor analysis. This results in four dimensions of social capital: general trust, bonding social capital, non–institutional social capital and weak social capital. In both of these chapters, the different dependent variables are affected differently by riots and returning home, validating the need to study different forms of social capital.

Secondly, the variable that measures conflict or violence must be exogenous. It is very likely that individuals who exhibit high levels of social capital also become targets of violence. This could be because they are political community leaders, or because they are more trusting and easily led into dangerous situations, or they are well known so perpetrators of violence would like to make an example of them. At a more macro level, communities with high levels of bonding social capital are less likely to result in conflict, but if bridging social capital with another community is low this could lead to violence and conflict. All these are valid reasons to believe that there might be a relationship between social capital and conflict that heads in the other direction, i.e. social capital causes conflict, and researchers need to address this issue carefully. In chapter 3 we use a neighbourhood random effects model with lagged neighbourhood level experiences of riots to estimate an exogenous effect of riots. In chapter 4, I exploit the exogenous nature of the return process and employ an instrumental variable to ensure causal effects.

Related to the issue of endogeneity of social capital, in chapter 5 I use social capital variables that are unlikely to be caused by the dependent variable (labour market outcomes), namely family size, so I can test whether social capital affects labour market outcomes and if it causes the effect of return. The focus of the exogeneity of the identification strategy in this thesis is an important contribution to the social capital and conflict literature.

Finally, there is a clear gap in the literature on social capital and conflict. The literature has not been able broach one of the most fundamental consequences of forced displacement, and one that affects millions of refugees around the world and their choice of returning home: How does returning home affect social capital? Nevertheless, return policy is advocated under the assumption that returning home will re-establish lost social capital (UNHCR, 2014). Also, once displaced, does social capital amongst refugees or IDPs become stronger because of solidarity and the fact that they have been through such a traumatic experience together? Studying communities of refugees that escaped the conflicts accompanying the fall of the Ottoman Empire, Loizos (2000) finds that these communities are able to create and develop social capital solely based on the common factor of being a refugee. This relationship has not yet been studied in a quantitative and rigorous manner, an important contribution of chapter 4.

Since economists and social scientists have realized the importance of social capital, it is only natural that this concept has been introduced into the conflict literature. Conflict brings about a change to the social fabric of a community and individual behaviour, so it is important to address these changes as part of the peace-building process. Unfortunately, the research on social capital is plagued by several different problems, and adding conflict

and violence to the mix only exacerbates these problems. Future research will need to differentiate between social capital's resources and outputs, as well as social capital itself; unpack the different forms and measurements of social capital; specify an exogenous variable that measures conflict and violence; distinguish between bonding and bridging social capital; and capture both individual and community levels of social capital.

With this in mind there is much scope for further research, particularly in areas on the drivers of conflict, as well as research concerning the reintegration of refugees and IDPs once they return home. As post-conflict aid and relief reaches countries and communities, the complex relationship between conflict experiences and social capital needs to be understood, as strengthening the social capital of a community (particularly bridging social capital) is necessary to avoid re-escalation of hostilities.

1.3 Outline of remainder of thesis

Chapter 2 details the data collection in Maharashtra and Lebanon. Chapter 3 explores the relationship between riots and social capital in Maharashtra India. Chapters 4 and 5 study the effect of returning home after conflict induced displacement on social capital and labour market outcomes respectively. Finally chapter 6 concludes by tying together the conclusions from these three empirical chapters.

Chapter 2

Field work and data collection

This chapter describes the data collection efforts that I was a part of during the first two years of my PhD. In Maharashtra, I was exposed to field work for the first time, and worked with a group of talented survey coordinators from MaRS Monitoring and Research Systems Private Limited, alongside my supervisors Jean–Pierre Tranchant, Jaideep Gupte and Patricia Justino, as well as my colleague Yashodhan Ghorpade. In Lebanon, the training wheels were off. I collaborated with a local NGO, Lebanon Support, who helped me hire a team of data collectors and field supervisors. Both field work experiences were eye–opening to the challenges and perils of data and data collection, and being a part of the process has given me much respect for the people and faces behind the numbers.

2.1 Maharashtra

The first wave of this household survey was collected in 2010, two years before I started my thesis. The details of the sampling strategy employed are discussed in chapter 3. With the aim of re–interviewing the same households from the first wave, we went to the field with an amended and updated questionnaire, household tracking information (the address, landmarks, name of household head and family members, and where possible a phone number), and detailed maps that were hand–drawn during the first wave (see an example of this in figure 2.1 in the appendix).

The field teams were split in two, one that covered Mumbai and Thane districts, and the other team covered the rest of Maharashtra. This was not only because of the larger number of households sampled from Mumbai and Thane, but also because of the difficulty interviewing respondents in these busy mega cities. I attended the three–day training for both of these teams, but travelled with the second one around Maharashtra for one month.

Once we arrived to a field site, we typically spent two days interviewing respondents from around 24 households. The field supervisors usually set out to the field first, trying to trace households from the first wave. This was not an easy task, given the vagueness of recorded addresses, but we located 80.4% of the original sample. The analysis in chapter 3 accounts for this attrition using a Heckman selection procedure.

Great lengths were taken to find the original households. If we found out that they had moved to another dwelling in the same neighbourhood we tried to track down these households at their new address. If no–one was at home, we waited as long as possible for their return, keeping in mind that our budget would not allow us to stay for more than two days in one field site. If we were not able to locate the household, we replaced this household with a new one from the same neighbourhood.[1] If replacement occurred, we gathered as much information as possible from neighbours and friends regarding the old household and their reasons for unavailability.

Each interview lasted around one hour using tablet PCs. At the end of each data collection day, the data was transferred to Excel format and validated by myself and

[1]Because we exploit the panel data in chapter 3, replacement households are not part of the analysis.

colleagues from the Institute of Development Studies. We looked out for outliers, as well as inconsistencies and these were cleared up with the data collector and/or respondent the very next morning.

After more than one month of travel and forty–five field sites visited, we collected a survey of 1,089 households, 874 of whom were traced from the first wave.

2.2 Nahr el–Bared camp in Lebanon

I conducted a household survey with the help of a local NGO, Lebanon Support,[2] in January of 2013. I collected a 590 household dataset, stratified so that a representative sample of households residing in each of the different residential areas was obtained. The dataset was collected through face–to–face interviews with one member from each household using a pre–determined questionnaire programmed into tablet PCs.

2.2.1 Sampling Strategy

The target sample size was 600 households, which we fell short of by ten. The sample was drawn from a database provided by the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). Collected soon after the 2007 war and over the following year, the aim of this database was to register and trace all displaced households from Nahr el–Bared camp. As displaced families approached centres throughout the country to receive aid and rent subsidies, UNRWA social workers gathered concise demographic information on the members of the households, the addresses of the household, and if possible, a contact number. This information is updated each time rent subsidies are disbursed to displaced households — which at the time of the survey was three times per year. The version of the database which was used to create the sample for this household survey was last updated in December of 2012, i.e. one month prior to fieldwork.

Using this database, different geographical strata were firstly identified through certain areas that had a high percentage of households from Nahr el–Bared camp (NBC old camp, NBC new camp, Beddawi camp) and then by grouping areas with a relatively small number of households and in close geographic proximity together (Bourj el–Shmali and al–Rashidiya are identified as Tyre). Applying a stratified sampling strategy, the sample is independently selected at each stratum to be 10% of the population, as shown in table 2.1. This method guarantees more precision in estimation if we expect characteristics to differ across the strata (Cochran, 1977).

[2] http://daleel-madani.org/about-lebanon-support

2.2.2 Data Collection and Tracing Households

The field work team consisted of thirteen data collectors, two field supervisors, and one data coordinator. The data collectors and supervisors were local residents of either Beddawi Camp (where the majority of displaced persons were located) or Nahr el–Bared camp, with previous experience in either household survey data collection or social work. A consultant with extensive prior experience in data collection and training was hired to facilitate a two–day training workshop.

Data collection occurred simultaneously in Nahr el–Bared camp and Beddawi camp over two weeks. Once these collection efforts were completed, the data collection team moved on to the remaining areas in Lebanon.

Interviews were conducted with one member of the household, a less costly method compared to interviewing the entire family, but more importantly it is also intuitive to this case study. In this context displacement was a household shock; 89% of households in the sample were displaced together. In the cases where household members were not all displaced together, 96% of household members that had stayed behind followed soon after. Except for cases where household members married and started a new household, it is likely that returning is (or will be, if the household is still displaced) also a household event.

The data collectors interviewed an available household member if he/she was above 15, and if two household members were available, they were told to choose the female head of the household as she would be more likely to provide correct information about the household budget. The respondent answered certain questions about all household members (e.g. the levels of health and education), certain questions at the level of the household (e.g. household expenditure on food), and certain questions related to the respondent him/herself (e.g. How many times have you visited a friend over the last week to socialize?).

After setting the sampling target within each geographical strata and then defining the household, we needed to be certain that households were selected randomly within each geographical strata, thus providing a representative sample. Two strategies were employed for this: randomised selection at the field site and tracing households from the database of Nahr el–Bared residents. As we used a stratified sampling methodology, different sampling strategies can be used for each strata (Cochran, 1977). The application of the two strategies are summarised in table 2.2.

At Nahr el–Bared camp, Beddawi camp, and the surrounding areas of Beddawi camp households were selected at the site using the right hand rule, as explained below, rather than traced from the database.

On the day, sectors of the camps and Jabal Beddawi were further divided into rectangular zones, with boundaries clearly defined by certain landmarks and boundaries, for example the sea, a graveyard and a school. Each data collector was assigned to a zone

and started at one corner. The data collector then entered the first dwelling and located a household. If the household accepted to participate in the survey, this household was interviewed, if not, the data collector moved to the household after this. Once the first interview was completed, the data collector counted eight households and interviewed the eighth household. This number was calculated by dividing the number of households in the sample by the total population and allowing a margin for refusals and unavailable households. To be certain that a dwelling was indeed occupied by one household (and not unoccupied or with more than one household living in one dwelling), the data collectors confirmed this with the interviewed household and nearby neighbours.

Whenever data collectors reached an intersection, they took the lane on their right–hand side and completed the route by turning to their right until they reached the main route again. In this way all areas of the camp were covered. Within Beddawi camp and Jabal Beddawi this method was altered slightly in that data collectors either asked neighbours or directly knocked on the doors of dwellings to enquire as to whether households were originally from Nahr el–Bared camp. This was because Nahr el–Bared families live alongside families from Beddawi camp in these areas (and more recently alongside Syrian refugees), and the number of non–Nahr el–Bared households could have inflated the number count. There are two reasons for choosing the right–hand method in Nahr el–Bared camp, Beddawi camp, and Jabal Beddawi, as opposed to tracking households from a list. Firstly, due to the large size of sample households, we felt that this method would be more efficient. Secondly, and more importantly, it was not advisable for us to enter the camps with a list of names and enquire about certain households. Understandably, members of the team did not feel comfortable doing this, and it was not worth drawing extra attention to ourselves in a tense and unstable environment.

On the other hand, tracking households from a list was necessary in areas outside Nahr el–Bared camp, Beddawi and Jabal Beddawi due to the small target number. In this case a target sample was set for each geographical stratum, and households were randomly selected from each geographical stratum using the sample command in STATA and the sample target number. A list of extra randomly selected households was also made for each stratum, in case households refused to be interviewed or we were not able to track them.

In addition to using the addresses of households (and if available their phone numbers), before heading to the field the supervisors met with various key informants, such as the Palestinian popular committee for relevant camps, the relevant camp services officer, local NGOs who had provided aid to displaced persons, the Palestinian scouts group, notable media persons, and notables of Palestinian political parties, in order to locate the randomly selected households and set up interviews with them. Fortunately the field supervisors were well connected to these relevant persons, contributing to a smooth facilitation of meetings and an acceptance and good reception of the research project. The significance of the supervisors' social connections for this research project further demonstrates how crucial social capital is in this context.

In case households were unavailable, or we were unable to track them given all the information that we had, we moved on to the extra randomly selected households. In the event that this list of extra households was also exhausted, we returned to the database and once again pulled a list of randomly selected households.

Unfortunately this list was also exhausted in a few cases, either because households had since returned to Nahr el–Bared camp or some households had returned but remained on the displaced list in order to receive rent subsidies. Similarly, some households registered themselves as living in two separate dwellings so that they could receive two rent subsidies, but are in actual fact living in one dwelling.

2.2.3 Using tablets for data collection

The main advantage of using tablet PCs was the fact that data was entered once only, as opposed to the case of using paper and pencil interviewing (PAPI), where responses are first recorded on paper and then entered in digital format into a computer. In the case of PAPI, entering the data twice increases the likelihood of data entry error, especially when written responses can be illegible or misinterpreted – even more so if the data is not entered by the same person who wrote the responses, as is usually the case. Using tablet PCs also sped up the data collection process by skipping the data entry stage, which in the case of a 600 household survey was estimated to have taken up to two weeks.

Another benefit of data entered immediately onto the tablet was that we were only a simple step away from observing the data. At the end of a day of interviewing, the data was transferred from the tablet PCs to my laptop and then compiled into an Excel sheet. Once I had the Excel file, I looked for outliers among the variables. I also looked out for any logical inconsistencies, such as those concerning education levels and age, or employment status and age. At the end of each day I prepared a report of these inconsistencies and met with the teams early the next morning before setting out for the next day of data collection.

The questionnaire used for this household survey was quite complicated as the sequence and inclusion of questions depended on the response to a previous question. Fortunately, the skip code could be automatically programmed into the questionnaire. Data collectors saved time as they did not have to carefully think about which question to ask next. In addition, mistakes where data collectors miss a question or ask the wrong question were avoided.

A justifiable concern prior to fieldwork was that respondents, or potential respondents, might be intimidated by the electronic devices. While several respondents initially asked if they were being recorded, data collectors did not feel that respondents were intimidated. Interestingly, respondents were quite curious to know more about the devices and how they would be used in the interview. This curiosity served as an icebreaker in many interviews, and in others a starting point to explain the research project.

Being heavily involved with validating the household selection process, as well as the data collected, guaranteed that the quality of the data high. The use of tablet PCs enabled us to verify and correct data the day after an interview was conducted, while the interview was still fresh in the minds of the data collectors. The intensive data validation and quality assurance allowed for a simple procedure of cleaning and structuring the data for the analysis.

2.3 Conclusion

Being part of the two data collection efforts for this thesis allowed me to make the connection between the sometimes abstract world of academic research and the communities, households and individuals under study. Researchers struggle with being outsiders of one form or another because they might belong to a different country, language or class. Initially, I was worried about being able to connect across the differences that separated me from my research communities.

The data collection in Maharashtra was a great training experience. I learnt how to programme the questionnaire for use on a tablet PC, how to manage a team of data collectors, how to efficiently organise and manage data and most importantly how to react to little crises that crop up on a daily basis.

However, when starting the household survey in Lebanon, I was eager to not repeat one experience from Maharashtra. I did not want to be the 'white foreigner'. I have grown up in Lebanon, with a Palestinian father and English mother. My Arabic accent is tinged with a hint of foreignness, as is my appearance. I hold a Lebanese identity card, which I used to enter and exit the refugee camps, a privilege denied to Palestinians living in Lebanese refugee camps in Lebanon but given to some for various political reasons. I contemplated dying my hair or covering up in a *Hijab*, but I was pleasantly surprised by the welcoming attitude of those living in the communities that we visited. I was not necessarily 'one of them', but I was treated with respect in addition to curiosity. In fact, some of the fieldwork team and respondents went out of their way to remind me of my Palestinian roots.

The team of data collectors were kind and eager to let me into their world, as well as learn more about mine. One of them was engaged to a Lebanese man and would be applying for Lebanese citizenship, something she wanted to learn more about. The field supervisor was completing his Masters in Sociology and wanted to learn more about my readings on social capital and Pierre Bourdieu. Someone else was applying for a visa to visit her sister and family in Germany and wanted to learn more about the way of life in Europe. Despite the barriers of class, religion and nationality, we found common ground.

Most of those living in the communities that we visited were also eager to cooperate with us. Some were interested to learn more about the tablets that our team members had and who we were. One lady said that she had just refused to be interviewed by UNRWA,

but would love to answer my questionnaire because I was a Palestinian and a student. I was invited into the homes of many to drink tea and coffee, smoke cigarettes and eat meals while other household members were being interviewed in another room.

This is not to say that all feedback was positive. A few potential respondents did not see a need for such a survey and viewed it as a waste of time. Similarly in Maharashtra, we were chased out of a field site by a woman who remembered the survey team from the first wave. "Nothing has changed since the last time you were here," she shouted at us, "so don't waste our time." The burden on respondents is great and too often this is forgotten.

Researchers in the field of economics or those engaging with quantitative research often miss the chance to experience the connection between their research and the lives of people who make up the subjects of their research. While the great burden placed on respondents is often forgotten in the academic literature, my experiences indicate that taking the time to interact with the real people involved on the ground can enrich the experience for both respondents and researchers. In my case, I was able to learn how to navigate relationships in Maharashtra from the perspective of a white foreigner who could never be an insider, and in Lebanon, I was able to move between insider and outsider because of the different facets of my identity as Palestinian, Lebanese, British, Christian, Arabic speaker, and English speaker. It was my sense that these connections enriched the experience of participating in research for the teams and respondents, but it also affirmed my sense of self, helping me integrate the sometimes conflicting parts of my identity and helping me become attuned to the impact and workings of research in complex contexts.

In the following appendix I have included some photographs from my fieldwork in Maharashtra and Lebanon.

Appendix: Figures and photographs from the field

Figure 2.1: Hand drawn map of sample neighbourhood in Jalgaon–Jamod, Buldhana district

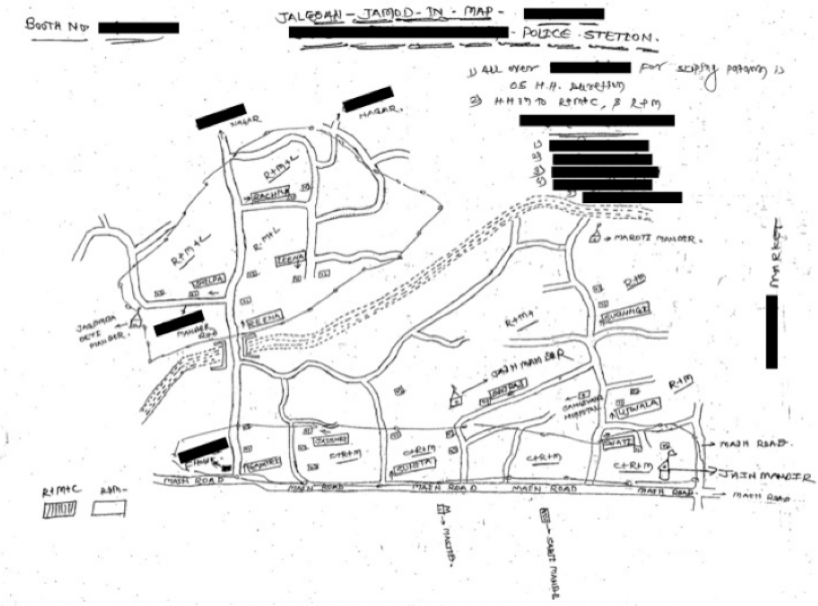


Figure 2.2: Dhule, Maharashtra

(a) Entrance to a field work site

(b) Exploring the boundaries of a field site with the field team

Figure 2.3: Field supervisor asking current residents information about the previous residents

(a) Navigating the complex streets of Beddawi camp

(b) Reconstruction in section A of Nahr el–Bared

Figure 2.5: Graffiti in Nahr el–Bared camp which translates as, “Smile, we have returned to you Nahr el–Bared.”

Appendix: Tables

Table 2.1: Population and sample size by strata

Area	# households in population	# households in sample	# households interviewed
NBC old camp	332	33	33
NBC new camp	3734	365	365
NBC surrounding areas	140	14	7
Beddawi camp	886	84	84
Beddawi surrounding area	739	72	72
Tripoli city & surrounding area	77	9	8
Beirut	104	10	10
Saida	84	8	6
Sour	40	4	4
Beqa'a	9	1	1
Total	**6145**	**600**	**590**

Table 2.2: Sampling strategy at strata

Area	**Selected randomly at site**	**Traced from database**
NBC camp	Yes	No
NBC surrounding areas	No	Yes
Beddawi camp	Yes	No
Beddawi surrounding area	Yes	No
Tripoli city & surrounding area	No	Yes
Beirut	No	Yes
Saida	No	Yes
Sour	No	Yes
Beqa'a	No	Yes

Chapter 3

Riots and social capital in urban Maharashtra

With co–authors:[1] Patricia Justino and Jean–Pierre Tranchant[2]

[1]This chapter has been co–authored with Patricia Justino and Jean–Pierre Tranchant. I declare that I have produced more than 80% of this chapter.

[2]The authors would like to thank Jaideep Gupte for leading the design and implementation of the survey and Yashodhan Ghorpade's excellent input into the design and implementation of the second wave of data collection. We would also like to thank Mr. Raghu Roy, Mr. Narendra Patel, Mr. Prasad Modak, Ms. Shabana Patel, Mr Yatin Sawant and others from MaRS Monitoring and Research Systems Private Limited.

Abstract

This chapter explores the relationship between exposure to riots and social capital in urban Maharashtra. We exploit a panel dataset collected by the authors and apply a random effects model with lagged covariates to estimate an exogenous relationship between neighbourhood exposure to riots and four forms of social capital: membership in a group or organisation, trust in neighbours, participation in community discussions and participation in community festival preparations. Consistent with Bellows and Miguel's study of conflict and social capital (2009), we find that households living in neighbourhoods that experienced a riot are more likely to be members of groups and organisations. On the other hand, we find that these households are less likely to join community discussions, which lends more to the hypothesis of fragmented post–conflict societies with a damaged social fabric (Colletta and Cullen, 2000). We explore various mechanisms behind these results and find that the increased membership in organisations is greatest in diverse neighbourhoods that have not experienced recent changes in composition. However, riots reduce trust and the likelihood of participation in fragmented and polarised riot–affected neighbourhoods. Riots also decrease participation in festival preparations in neighbourhoods where out–migration has been low. Our analysis suggests that individuals and households instrumentally use social capital to their advantage, a type of insurance to protect against potential communal violence in the future. However, riots can have adverse affects on different forms of social capital that go beyond the surface level of social networking to feelings of trust and sense of community.

3.1 Introduction

Social capital, including social cooperation and social trust, is central to how societies and economies develop (Akerlof, 1976; Coleman, 1990; Durlauf, 2006; Easterly et al., 2006; North, 1990; Gardner et al., 1990; Putnam et al., 1994b; Woolcock, 1998). Strong social ties allow us to achieve goals that involve the cooperation and inputs of more than one player, leading to more effective outputs such as public goods, institutions, and community–level investments (Habyarimana, 2009), all of which are essential for economic development. Social capital is also used as an important coping strategy when households are faced with a myriad of shocks (Fafchamps and Lund, 2003). Other studies have empirically shown the advantage of a more cooperative society: public institutions and public policies are more productive (Putnam et al., 1994b), growth rates increase (Fukuyama, 1996; Knack and Keefer, 1997), human productivity is greater (Dasgupta and Serageldin, 2002), high school drop outs decrease (Coleman, 1988), and financial investments and networks increase (Harker et al., 1990). There are other benefits to cooperation and strong community ties, some less measurable, like personal satisfaction gained when greeting your neighbour as you leave your building, benefits that Sobel (2002) describes as valuable "intrinsically".

While much has been written about the importance and formation of social cooperation and social trust, there is limited knowledge about the dynamics of these important social phenomena in areas affected by social instability. This is despite the fact that in the context of conflict and violence, a strong social fabric is crucial. For instance, Varshney (2001) argues that in multi–ethnic societies, if civic engagement across two different communities/ethnic groups is not present or weak, conflict and communal violence will flare up. These factors are likely to be particularly important in cases of informal settlements in large cities made up of diverse social groups, where population movements are constant and violence affects much of the lives of their inhabitants.

This chapter brings a major contribution to this literature, which has thus far ignored the subtle intricacies and complexities involved in the formation of social capital, particularly in fragile and conflict affected settings. This research also contributes a rich dataset collected in urban Maharashtra within riot and non–riot affected neighbourhoods. The detailed information on the household's experience of a riot as well as their social capital allows us to uncover a nuanced finding: The effect of a riot on social capital is dependent on the social make-up of the community, as well as the stability of the community in terms of out–migration. Experiencing a riot can bring people together, but this turns out to be more instrumental than other facets of social capital that have been damaged by riots and communal violence. By correcting for reverse causality and confounding factors, this chapter also presents a vast improvement from the social capital and conflict literature, which struggles to address these biasing factors.

Today, more than half of the world's population live in urban areas. Two–thirds are predicted to do so by 2050 (UN, 2015). Cities are the centre of rapid economic and social progress in much of the world. Urbanisation is often associated with improved

access to jobs, goods and services (Becker et al., 1992; Huriot and Thisse, 2000; Glaeser et al., 1995). But not everyone benefits from this process of urbanisation (Benabou, 1993). Over 850 million people across the world live in informal urban settlements (slums) (UN–Habitat, 2015), characterised by overcrowded conditions, economic vulnerability, and limited access to services, water, sanitation and legal protection (UN–Habitat, 2003). This number is estimated to rise to 2 billion by 2030 (UN–Habitat, 2003). These are also areas often characterised by high levels of crime and violence. For instance, in India, urban areas accounted for an overwhelming 96.4% of deaths as a result of communal violence between 1950 and 1995 (Varshney, 2001), leading scholars to label rioting in India an 'urban phenomenon' (Varshney, 2004).

The main objective of this chapter is to analyse the effect of exposure to violence on social capital among slum communities in Maharashtra. We are particularly interested in how two key features of urban slums —social diversity and out migration —may shape the relationship between violence exposure and social capital. We exploit a panel dataset collected by the authors and apply a random effects model with lagged covariates to estimate an exogenous relationship between neighbourhood exposure to riots and social capital. We measure social capital in terms of participation in civic groups and organisations (such as women's groups, cooperatives, neighbourhood groups ...), participation in community discussions, participation in community festival preparations, and trust of neighbours.

The main results show that riots exert different impacts on different indicators of social capital. Households that experience a riot are more likely to join an organisation, but the likelihood of their participating in community discussions is decreased. Households that experience a riot are not more or less likely to trust their neighbours or participate in joint festival preparations.

We inquire further by investigating how the social make-up of the neighbourhood plays a role in either worsening or improving the effect of rioting on social capital. In neighbourhoods with low polarisation riots decrease membership in organisations, but the opposite effect is observed in highly polarised neighbourhoods. There is an increase in trust when a neighbourhood with low fragmentation is exposed to a riot, but a decrease in trust as fragmentation increases. Riots decrease the likelihood of being part of community discussions in highly fractionalised and polarised societies. The negative effect of riots on festival preparation is greatest in non-polarised neighbourhoods, but the negative effect is still significantly present when polarisation is high.

We postulate that the household's standing in their community, i.e. whether they belong to the minority or majority religious/caste group, affects how riots impact their social capital. We find that households in the minority group are less likely to trust their neighbours if there is a riot in their neighbourhood, but no other significant effect of riots on social capital is observed.

We also explore the importance of religious/caste group identity through the use of vignettes. Respondents are asked if they would loan money to a member of their commu-

nity, and the name of this individual is given to represent one of three main religious/caste groups. This allocation of the name is randomised across respondents. We find that if the respondent matches the identity of the character in the vignette, they are more likely to loan money to them, but this result vanishes when we look at individuals exposed to a riot.

Finally, we find that the effect of riots on social capital are greatest in stable neighbourhoods, i.e. when levels of out–migration are low. Riots still increase membership in organisations, but by an even larger amount when out–migration is low. We also see the riots decrease trust in neighbours and participation in discussions and festival preparation in these neighbourhoods of low–level migration. In fact, when out–migration is high, riots have a positive effect on trust towards neighbours and significant effect on participation in discussions and festival preparation. This can be explained by new members arriving to the neighbourhood and investing in social capital. They are unlikely to be affected by riots that have impacted the rest of the community. In addition, those who were most impacted by riots could be those who have since migrated, a form of disinvestment in social capital. These two factors will cause the impact of riots on social capital to diminish in neighbourhoods of high out–migration, as our results show.

These findings suggest that households behave instrumentally and deliberately when it comes to investments in social capital, and this decision is a function of the household's relation to its community as well as threats to the stability of the neighbourhood. Households also seem to invest in different forms of social capital for different reasons. For example, experiencing a riot might make households try to build new networks through membership in organisations, hoping that these networks will protect them in times of future instability. On the other hand, households from riot affected neighbourhoods spend less time participating in community discussions because of deteriorating payback from discussions with fragmented and divisive groups of the community.

This chapter entails important contributions to at least three bodies of literature. The first is an emerging body of literature on the effect of armed conflict on social capital including participation in local civic organisations (Bellows and Miguel, 2009), voting (Blattman, 2009), reciprocity (Michal et al., 2011; Gilligan et al., 2014) and trust (Voors et al., 2012). The chapter extends this literature to analyse the role of low–intensity violence (in the form of riots) on social capital. The second contribution is to the literature on the provision of public goods in ethnically diverse societies. Several studies have shown that collective action that sustains the provision of public goods is more challenging in heterogeneous societies (Alesina and La Ferrara, 2005; Vigdor, 2004; Alesina et al., 1999; Alesina and La Ferrara, 2000; Miguel and Gugerty, 2005; Habyarimana et al., 2007). We show that social polarisation and fragmentation also affect the relationship between riots and social capital in informal settlements. Largely, riots reduce social capital in diverse neighbourhoods. The chapter also makes an important contribution to the literature on the formation of social capital (Axelrod and Hamilton, 1981; Bowles and Gintis, 2011; Gambetta, 1988; Alesina and La Ferrara, 2002; Glaeser et al., 2002), by showing how

social capital in urban areas depends on the context under which different populations live. Notably, social capital is shaped by the exposure of households to violence in their communities and to community levels of polarisation, fractionalisation and out–migration.

3.2 Conceptual Discussion

There is an implicit assumption in the literature that dimensions of social capital, such as social cooperation and social trust, are destroyed in areas affected by violence. However, recent research in conflict–affected areas has found that the relationship between instability and social cooperation and trust may be more complex than is often assumed. Notably, recent empirical studies have revealed that exposure to violence may in fact result in stronger forms of social engagement and cooperation (Michal et al., 2011; Bellows and Miguel, 2009; Blattman, 2009; Gilligan et al., 2014; Wood, 2003; Voors et al., 2012), particularly among those from the same community, if not necessarily between different communities (Michal et al., 2011; Bowles and Gintis, 2011). But while there is a substantial literature on the formation of social cooperation and trust in peaceful and stable settings (Axelrod and Hamilton, 1981; Bowles and Gintis, 2011; Gambetta, 1988; Alesina and La Ferrara, 2002; Glaeser et al., 2002), we have limited systematic understanding of how the various dimensions of social capital may change in more unstable slum areas, where violence can be part of daily life and populations move rapidly, constantly changing the social and demographic composition of neighbourhoods and communities.

The effects of exposure to urban violence on social capital is a–priori ambiguous. On the one hand, it is possible that urban violence destroys forms of social cooperation and social trust. This is particularly true when violence involves different social groups (for instance, Muslims and Hindus in the case of India) who live in the same communities.

But it is also possible that exposure to urban violence may increase social capital, as reported in the recent literature on civil wars. This could be because individuals are drawn to each other in the face of adversity or because individuals instrumentally engage in social capital as protection in case of future conflict.

The net effect of violence on social capital may depend on a number of mechanisms that shape the relationship between the two variables. The first mechanism is social diversity. Urban slums are areas of large social diversity where people of different classes, castes, cultural, ethnic and religious groups live in close proximity. Some levels of heterogeneity between groups may facilitate collective action and social capital, particularly when elites benefit from the collective good (Olson, 1995). But in general, high levels of heterogeneity within groups tend to reduce group cooperation at the local level (Alesina and La Ferrara, 2005; Miguel and Gugerty, 2005; Bardhan, 2005). However, internally homogeneous groups may also be characterised by forms of 'parochialism' (Bowles and Gintis, 2011, 2004) when inequalities between groups are significant, and lead to suspicion and discrimination against 'other' groups. In these cases, social capital may be high within these groups —

what is referred to as 'bonding social capital', but low between different groups — what is referred to as 'bridging social capital' (Putnam, 2000). Bonding social capital brings people together and encourages certain norms and strengthens identity, whereas bridging social capital can blur social divisions, as well as allow for better linkage to external assets and diffusion of information. Having strong bridging social capital is an important peace–building mechanism and is crucial in post–conflict and multi–ethnic societies (Varshney, 2001). Anti–migrant attitudes and violence against non-native groups are examples of this phenomenon of high bonding social capital and low bridging social capital — what was described elsewhere as the 'dark side of social capital' (see (Schelling, 1969; Hoff and Sen, 2006)). Phenomena such as this result in reductions in inter–group cooperation as different social groups drift apart (Akerlof and Kranton, 2000; Hoffman et al., 1996; Kranton, 1996).

The second mechanism is the large variation in population movements. In general, social capital formation is studied in areas that are fairly stable. Popular perceptions indicate that slum areas are highly unstable because of demolition threats and ambitions beyond informal settlements in slums. However, it is worth noting that despite perceptions that slums are temporary arrangements, this has rarely been the case in most developing countries where slum population growth has risen constantly over decades and millions of households live in urban slum for generations (Marx et al., 2013). Nevertheless, there is a wide variation in levels of out–migration across neighbourhoods in our sample, ranging from no households migrating to 26% of households migrating between 2010 and 2012.

If riots destroy social capital, then migrating (and investing in social capital elsewhere) may be less costly than staying. The newcomers who replace those who left will likely be closer in characteristics to existing neighbours, and will probably be willing to invest in social capital as soon as they join the neighbourhood. If this is true, then we will see a smaller effect (or no effect) of riots in neighbourhoods where out–migration is high, as most of this effect is embedded in households who have since left.

If riots undermine the returns to social capital, but not so much that it offsets the costs of out–migration, then households will choose to stay in their neighbourhood but invest less in social capital. In this case we will find a negative relationship between riots and social capital when out–migration is low.

The subsequent sections provide an empirical analysis of the effects of violence exposure on social capital in urban areas of Maharashtra and investigate how social diversity and migration movements affect that relationship.

3.3 Context

Riots have been endemic to urban areas in India (Varshney, 2001; Wilkinson, 2005, 2004; Brass, 1997), the reason for the urban focus of this study. The urban population in India is now growing faster than the rural population, and more than 31.16% of the population live in cities and urban areas (UN-Habitat's Global Urban Observatory, 2016). Extreme

poverty and lack of economic opportunity have forced Indians out of rural areas and into the city, in search of a more prosperous and fruitful life. However, what awaits is unplanned infrastructure, economic markets that are fully saturated with low skilled workers, and an unequal divide between the wealthy and poor slum dwellers (Mazumdar, 1987; Deaton and Dreze, 2002).

Of the urban inhabitants in India, almost 110 million people live in slum areas. In most cases slum settlements are illegal, and inhabitants face threats of eviction and unannounced demolitions by the government (Ramanathan, 2006). The state of Maharashtra hosts the largest registered slum population in India — upwards of 11 million people (Census Organization of India, 2011), mostly within the state capital of Greater Mumbai.

In Maharashtra, riots bring back memories of the extensive violence that took place between 1992 and 1993, following the demolition of Babri mosque in Uttar Pradesh. 900 people lost their lives, thousands were injured, and thousands more fled from the violence and looting in the streets (Srikrishna, 1998). Today, riots are still prevalent in urban Maharashtra. Figure 3.1 displays the number of riot events together with the number of deaths, injured and arrests between 1950 and 1995. One can see two major peaks of riot activity in 1970 and 1984, whereas the most deadly years were 1970 and 1992/93. Apart from these particularly violent years, it is also clear that riots break out nearly every year, revealing the endemic nature of civil violence in Maharashtra.

To paint a picture of what riots in urban Maharashtra look like, this section descriptively analyses data from a dataset prepared by the authors which scanned local newspapers for riot events.

As part of the preliminary investigation into riots in Maharashtra, a Marathi speaking research assistant was hired to scour the Maharashtra edition of the Times of India in addition to a leading Marathi news site, the Loksatta. The research assistant searched for the use of keywords such as riot, violence, *Bandh*[3] and *Raasta roko*[4]. The research assistant then entered the information of any events that were considered to be riots, and included a brief description of the event (translated from Marathi to English), as well as pulled out some further variables, such as number of civilians injured, duration of the riot, location of the riot. After reviewing this dataset, we ruled out any events that were clearly personal disputes that did not involve the larger community, and classified the events further to include the modality of violence, whether a curfew was enlisted, and whether there was religious or communal element to the riot, amongst other variables. In total, according to this dataset, 225 riots took place from the 1st of January 2008 to the 1st of January 2012. Figure 3.2 displays the number of riots that took place each month. There is a high frequency of rioting in late 2009, and this continues into the following year. On average, four riots take place per month, but some months go by (particularly in 2008) where no riots take place. This clustering is likely to coincide with local religious

[3] A *Bandh* refers to a type of general strike commonly used for protest purposes in India. A *Bandh* can bring the economy to a standstill, and is a much feared protest tool.

[4] Usually coinciding with a *Bandh*, a *Raasta roko* is a commonly used tactic of blocking main roads through large crowds, sit-ins or tire burning.

events and festivities, making some times more sensitive than others.

Table 3.1 provides some summary statistics of the variables describing these riots. On average, riots tend to last a little over a day, but there is one case of a riot lasting for twelve days. In 42% of cases, a civilian has been injured during the riots, and 17.3% of the time a policeman was injured. In 7.6% of cases at least one civilian has been killed, but a policeman has never been killed in any of the riots in Maharashtra between 2008 and 2011. In a quarter of cases an arrest has been made or someone has been charged, and the number of these arrests and charges varies wildly depending on the riot. In one particularly large riot, a thousand civilians were arrested. This event was initiated from a protest called by the Shiv Sena,[5] which turned violent once protesters started to throw stones. Policemen were attacked and they were forced to disperse the crowd and make arrests.

In fact, in almost a quarter of riot cases the police have been forced to engage in violence in order to control crowds and violent rioting. This behaviour includes the use of tear gas, firing guns into the air and beating with sticks or *lathis*. In many of these cases the police behaviour has further enraged the crowds, and has often initiated a fresh riot in a neighbouring town or in the aftermath when civilians realised that the policemen would not be reprimanded. In extreme cases, the police also enforce a curfew, not allowing any civilians outside their homes until tensions calm. This has happened during 9% of riots reported in the dataset.

For more than half of the riots there was a clear communal element to the event, as a result of a struggle or conflict between religions, identities or communities. In some cases the cause is quite clear, but in others there are more subtle communal undertones to the riot. For example, in February 2009, a riot took place outside of a movie theatre in Mumbai that was screening Bollywood film star Shah Rukh Khan's latest release, *Billu*. The film included a song that contained lyrics deemed to be offensive to Muslims.[6] Shah Rukh Khan's house was also attacked by a mob who pelted it with bottles of lit kerosene. Both the house and theatre were damaged non–negligibly. In Miraj, September 2009, a welcome sign to the city was put up that showed the defeat of Afzal Khan at the hands of Shivaji Maharaj. Afzal Khan was a medieval Indian commander who served the Adil Shahi dynasty of Bijapur, and Shivaji Maharaj a Hindu King warrior who carved out the Maratha empire. While it is true that Shivaji Maharaj killed Afzal Khan, this is a contentious event for Hindus and Muslims in Maharashtra. Members of the Shiv Sena clashed with Muslim groups in the city's market place, and the police arrived to the scene to administer tear gas and attempt to control the mob. The clashes further escalated when a Hindu religious idol was defaced. The police arrested several of the instigators and declared a city wide curfew that lasted for 13 days. Tensions remained high even after the curfew was lifted.

[5]The Shiv Sena is a powerful far-right Maharashtrian political party, with a pro-Marathi and Hindu nationalist ideology.

[6]This turned out to be a mistake, and the phrase in question was actually misheard.

In table 3.1 we see that 20% of riots were initiated from a personal dispute, which can also in some cases transform into a communal riot. 16.4% of riots followed on from a non-violent protest that took a nasty turn. In 5.8% of cases this protest took the form of a *Raasta roko* where major roads are blocked in order to bring the economy to a standstill. In a few cases (2.7%) a riot was sparked based on a false rumour. For example, a riot started in Varangav in February 2009 because a rumour spread that the police had damaged a religious statue while transporting it to a different location. In 3.1% of cases a riot took place in slum areas because of a government attempted demolition. 8.9% of riots were related to a local election. In a quarter of riot events, there was either intentional or unintentional damage to public or private property. Often rioters would throw stones at public buses, as this is seen to be a symbol of the state. Othertimes rioters will vandalise or set fire to private property, as was the case of Shah Rukh Khan's house.

As mentioned a few times before, stone throwing is the most common modality of violence during a riot and has been a main feature of the riot in more than 50% of cases. Stones are either thrown at physical buildings or vehicles, or at other groups, in the case of the latter causing severe injuries. Closely following stone throwing is a physical fight, which can include stone throwing between two groups or even the use of swords, sticks and/or guns. Physical attacks, beatings and scuffles have been singled out separately and occur in less than 10% of cases. While attacks and beatings are mainly one sided (compared to a fight), a scuffle usually occurs unintentionally when large groups gather and tensions are high. Arson, vandalism and looting occur during some riots, but this is only in 8% of cases for arson and vandalism and only 1% of cases for looting. Tire burning has been used to block roads in a very small number of cases.

It is worth noting that the details presented here have been teased out of the newspaper reporting, and if certain aspects of the riot were left out of the report then they will not be classified into any of these variables. Perhaps more worryingly is if smaller riots, or riots in isolated areas, are not reported in newspapers. This could mean that the newspaper dataset provides a somewhat biased representation of riots in the Maharashtra. For this reason, and because we will not be able to match the existence of a riot in a large city to the household's exposure to a riot, we have not relied on this data for the main household level analysis. However, this data has been useful to paint a rough idea of what riots look like in urban Maharashtra, and have also played an important role in the sampling strategy for the household survey.

3.4 Data

We argue that exposure to violence can have ambiguous effects on social capital depending on the type and extent of social diversity within neighbourhoods and the costs of out–migration. In order to study these complex relationships, we make use of a unique panel dataset collected by the authors of 1,089 households interviewed twice in 2010[7] and 2012

[7]See (Gupte et al., 2014) for an analysis of victims of violence using the 2010 data of this panel.

in 45 urban sites of Maharashtra.

3.4.1 Data collection

Empirically analysing the consequences of civil violence (including on social capital) is challenging and depends on a robust sampling framework that can simultaneously be locally representative as well as allow for enough variation in the sample to draw comparative inferences. Pure random sampling in violence–prone contexts is difficult because violent events tend to be highly clustered geographically and amongst certain types of individuals. Some of the most relevant insights into why individuals and groups engage in violence and on the processes that lead to the onset of violence have been gained from localised qualitative research undertaken by sociologists, psychologists and anthropologists (e.g. Moser and McIlwaine (2000)). In order to capture both localised experience and representativeness, we developed a five–stage sampling framework, which employs clustering (at the district level) at stages one and two, pre–selection (at the site level) at stage three, and randomisation (at the neighbourhood and household level) at stages four and five.

At stage one, district–level data from the Maharashtra Police on *jatiya dangali* (communal riots) from 2003 to 2008 captured 'significant' riots reported at the police station level for which a First Information Report (FIR) was filed with a magistrate. This data was discounted progressively by an order of 1/6th, so that 6 riots in 2003 equated to 1 riot in 2008. The average of the discounted data was then ordered and divided into three categories:[8] high (5 or more riots per district per year), medium (more than 1.5 and less than 5 riots per district per year) and low (less than 1.5 riots per district per year). While this ordering does not capture the intensity of each riot episode (the extent of fatalities, injuries, damages or arrests), it was nevertheless understood as a good indicator of the endemic nature of civil violence, which not only picked up districts with routinely high levels of rioting (like Buldhana), but also districts which had a few particularly violent years (like Dhule).

At stage two, the geographic spread is accounted for by representing all administrative regions and socio–cultural divisions in the sample, as well as giving each riot category an equal weight. This resulted in 10 districts, three in each of the high and low riot categories, and four in the medium category. Gadchiroli (in Nagpur Division in the Vidarbha Region) was removed from the sampling for logistical and security reasons.

At the third stage of sampling, specific information was collected on instances of civil violence in the 24 months prior to fieldwork (2008–2010), in each of the nine selected districts. This was done through a scan of print and online media, as well as key informant interviews, which included sites where particular bouts of civil violence (rioting, stone throwing, police firing/violence, large scale arson, among other modalities) had taken place. The particular search strings, including 'riots', 'public fight', 'violence', 'police

[8]These categories are based on the 70th and 90th percentile cut–offs of the distribution of average number of riots discounted over the last 6 years.

action', 'stone–pelting', 'clash' in printed newspapers, was carried out at the Centre for Documentation, Mumbai. Based on the riot event data between 2008 and 2012, 22 sites of interest were selected, where rioting seemed to be re-occurring

Until this point, the sampling had been purposive — it included (1) selected categorised districts according to the level of civil violence, (2) selected districts which gave us a full sociocultural and geographic coverage of Maharashtra, and (3) within sampled districts, purposively selected twenty–two sites of interest.

As a fourth stage of sampling, the sites of interest were matched to maps of assembly constituencies, acquired from the Election Commission of India, to pick out the corresponding voting–booth zones covering our sites of interest. Prior to fieldwork the last electoral lists were updated for the Maharashtra Legislative Assembly elections in 2008–2009. The electorate in each district is divided into several Assembly Constituencies, which in turn are split into voting booth zones. Each voting booth zone covers roughly 200 households, although can be much higher in dense conurbations, like Mumbai, where the number of households is closer to 500+ per voting booth. On average a voting booth equates to approximately 1,000 individuals of voting age, and in spatial terms equated to an area in which the research team could walk the perimeter in approximately twenty minutes. A voting booth zone contains two or three main streets, a handful of secondary streets or *galis* and might contain one or two public institutions such as mosques, temples, or gymnasiums. The number of voting booth zones in our sites of interest varied between 50+ (for large sites) and one or two (for very specific sites). As a rule of thumb, where more than 10 voting booths corresponded to one site, two voting booths were randomly selected, in all other cases, one was randomly selected. This resulted in five neighbourhoods per district and forty–five neighbourhoods in our total sample.

The fifth stage of sampling consisted of pre–visits to each of the forty–five selected neighbourhoods by the supervisors of our research teams. In these pre–visits the supervisors mapped all major and minor streets, including any major landmarks, buildings, institutions, as well as geographic features like water bodies. These maps were then digitised and their information merged to the household dataset, allowing us to use neighbourhood level variables in the analysis. Depending on the size of the neighbourhood, between 5 and 12 'starting points' were set along the extreme periphery of the neighbourhood. The field team then began household interviews simultaneously from all starting points, working their way inwards. Households were selected through a skip pattern, which for larger neighbourhoods was 7 or 8 households, while for smaller neighbourhoods was 4 or 5 households in order to ensure a sample of 24 or 25 households per neighbourhood. This roughly equated to sampling 10 per cent of all households in each neighbourhood. The skip pattern followed strict guidelines: (1) actual households, as opposed to built–structures, were counted in the skipping patterns. This involved finding out whether some households were co–habiting, renting, living above or below another household, in which case the two households were counted separately. (2) Take every right turn, no matter how small. The teams used the right–hand–thumb rule for this, and were instructed to specifically take

the smallest of turns, even if this involved going into seemingly inaccessible spaces, like across gutters and into tight corners, to ensure that the skip pattern did not miss out any households. (3) The skip pattern was followed in such a way that each surveyor would not cross any major streets but go along them; and (4) If a dead–end was encountered, work back along the opposite side of the completed road.

Through this multi–staged sampling framework, we achieved a final sample of 1,089 households, spread across forty–five neighbourhoods, in nine districts. The second round of data consisted of follow up interviews with the same households two years after the initial round of data collection (in 2012). The detailed maps that were gathered in 2010 were a useful tool to track households, but as is the case in urban areas, attrition does take place. In fact, in one slum area in Mumbai, most of the sample households had moved because of a fire that had destroyed the neighbourhood a few months prior to data collection. In total, 874 out of the 1,089 households were traced, 80.4% of the original sample.

This high attrition rate might be worrying in terms of selection bias, if those who dropped out of the sample are significantly different to those who have remained. To test this bias, table 3.3 compares the 2010 socio–economic indicators of those who were located in 2012 and those who were not re–surveyed. In addition, we also compare the main variables that are used in the analysis: measures of social capital, social diversity, riots and out–migration. The measurement of these variables, and the socio–economic indicators, are explained in the next section. Table 3.3 shows that households who dropped out of the sample are less likely to have reported a riot and lived in neighbourhoods that were less likely to have one–third of households reporting a riot. We also observe that households from less fractionalised and polarised neighbourhoods are more likely to drop out of the panel.

In the subsequent analysis we control for all of these variables that are significantly different for households who are tracked and non–tracked. In addition, we have corrected for potential selection bias using a Heckman two stage regression, and found no difference in our results. The added Heckman selection term was also insignificant.

3.4.2 Variables

We test the effect of exposure to violence on the likelihood to display social capital. This section describes how we measure social capital, riots and other control variables.

Social Capital

The definition of social capital has slowly mutated from its original meaning and "heuristic value" to become a vague term that often encompasses so many concepts that its distinct nature is no longer distinct (Portes, 1998). Despite this ambiguity, "the consensus is growing in the literature that social capital stands for the ability of actors to secure benefits

by virtue of membership in social networks or other social structures (Portes, 1998)." As different scientists have explored social capital they have added different concepts and forms to the mix, from collective action to norms of trust and reciprocity. Dasgupta and Serageldin (2002) and Grootaert and van Bastelaer (2002) have advocated the multi-faceted nature of social capital, as the different dimensions of social capital can have different effects on outcome variables, and it is important each of these dimensions are explored independently. In this chapter we have chosen four variables from the dataset that represent three different dimensions of social capital: civic association — (i) membership in a group or organisation; trust — (ii) trust towards neighbours; collective action — (iii) participating in community discussion and (iv) participating in joint festival preparations. Participation in community discussions and festival preparation allow three options, but we have transformed these variables into a binary variables. This is because most responses were either "sometimes" or "all the time", and few respondents wanted to limit themselves to the "No" response.

Tables 3.5 provides summary statistics of the four social capital variables. 15.9% of respondents reported that they or a member of their household belong to a group or organisation. 17.1% of respondents reported that they would be willing to trust their money or assets for safekeeping with their neighbours. 42% of households participate in community discussions, and 69% participate in community festival preparations.

Table 3.5 separates these social capital variables between respondents who live in a neighbourhood where a riot has occurred in the last two years, and those who do not (the determination of the riot variable is explained in the next section). Respondents who have at least one household member belonging to an organisation are more likely to be living in riot prone neighbourhoods, and this difference is also statistically significant. This could be because individuals feel that they need to become more involved in their community once faced with a significant threat or problem like a riot. However, the remaining social capital variables show an entirely different picture: trust towards neighbours, participating in community discussions and participating in festival preparations are all significantly lower in riot affected neighbourhoods. This indicates a break down of social capital, rather than the increase in group membership that we saw earlier. It is not difficult to imagine that trust is low in neighbourhoods hit by a riot, and one could speculate that this stems from a decrease in trust in those from other groups. It is interesting to see that participating in community discussions is lower in riot affected neighbourhoods, compared to belonging in an organisation, and the next sections aim to understand this complex relationship.

Riots

In India, a riot is officially defined as an assembly of more than 5 people who use violent means to achieve a common goal (Wilkinson, 2009). While this definition of a riot is quite broad, there is severe under reporting of riots in India because policemen and politicians prefer to convey a peaceful and well functioning society in which they are performing their

best to maintain peace and order (Wilkinson, 2009). For this reason we have decided against the use of police or official data to represent riots in our analysis.

Newspaper reported data has been used in the past as a more reliable source (compared to government and official data) to measure the incidence of riots (see for example Bohstedt (1988) who compiled riot data for the UK, and Varshney (2001) and Wilkinson (2004) for a dataset on ethnic riots in India), but this data has its own shortcomings. Newspapers usually cover riots in areas where they have reporter presence, missing out on more isolated areas. Newspapers are also likely to have a political bias that leads them to report only particular events, or report them in an instrumental manner. In addition, labelling a certain event as a riot leaves much discretion to reporters and politicians, whereas those involved might interpret the event quite differently (Brass, 1997). Riots are small-scale violent events that occur in localised areas and are often not picked up by the media, which is why we have not relied on this data for our analysis.

Instead, we make use of self–reported data, which captures riot data that is not picked up by newspapers or police stations. The survey asks the respondent if "In the last 12 months, have any of the following events occurred in your neighbourhood?", the events include riots amongst other violent events such as stone pelting, public fights, bottle throwing, and tire burning. In 2010, 23% of respondents reported a riot taking place in their neighbourhood.

If the respondent has reported a riot taking place in their neighbourhood, the questionnaire then went on to ask what action the respondent took. The options to this question were unprompted, but were then classified into the following categories: "I was involved", "I watched from far", "Harboured others in my house", "Called the police", "Joined neighbourhood efforts to stop the riot", "Contributed money to relief efforts", "Went home and shut the door", "Did nothing", and "Did not actually see it". In addition to asking about the occurrence and action taken during a riot, we also asked respondents about other events: stone pelting, public fights, tire burning, damaging of bus and/or public property, police harassment, agitation related to a *bandh*, violence during curfew, and bottle throwing. As explained earlier, these events are likely to occur at the same time as a riot, and in fact most respondents who report these events occurring have also reported a riot in their neighbourhood.

Table 3.7 tabulates the number and percentage of respondents reporting each of these events, as well as the number of respondents who reported taking a specific action. We also provide the percentage of respondents reporting a particular subsequent action, given that they have reported an event in their neighbourhood. Perhaps unsurprisingly, the most common form of action reported is to stay at home and do nothing. This could be because these violent events are perpetrated by the minority, while the majority keep themselves safe at home. It could also be that those involved in these violent events are from different neighbourhoods, which means that if an event occurs in one's own neighbourhood then respondents are not likely to be involved and will instead try to keep safe. Finally, it is possible that respondents did not want to reveal their involvement in a riot, fearing

repercussions.

A large percentage of respondents reporting an event taking place also say that they did not actually see the event, a possible occurrence given that we asked if the respondents know if a riot or other event took place in their neighbourhood, and not if they witnessed one. In fact, in a separate section of the questionnaire we ask whether the household has experienced a riot in the last two years, and 12.4% of household report this to be the case. Of those who report experiencing a riot, a large majority (74%) suggest that the household was in need of money due to damages or disruptions faced during the riot.

Self-reported data also entails specific challenges as such data can be under or over reported by households and could be correlated with the household's vulnerability and wealth.

We address potential self–reporting biases in three ways. Firstly, we control for household income in case poorer households are those who are most likely to be affected by riots or report them. Secondly, households were asked about a riot taking place in the *neighbourhood* rather than the household's experience of a riot. This alleviates under–reporting if households are scared to admit their involvements in riots and alleviates over–reporting if households are expecting compensation in return for their exposure to riots. The third way that we correct for potential self–reporting bias addresses the fact that households sometimes have conflicting views about this variable, because of varying definitions of a riot or a neighbourhood amongst respondents. Alternatively, some riots might only affect parts of the neighbourhood. So for each neighbourhood, we computed the proportion of households who have reported a riot in their neighbourhood. By aggregating this variable we are able to address some of these discrepancies and get a fuller picture that accounts for all responses. It is also reassuring that the data on self-reported riots is correlated with other events in the neighbourhood which may be considered to be modalities of violence in the context of riots, including stone–pelting, public fights, damages of buses or public property, burning of tires, throwing of bottles, police harassment, agitation related to a strike (*bandh*) and violence during curfew (Gupte et al., 2014).

We then partitioned the sample into riot–affected and less affected sites based on whether at least 30% of respondents in a given site report a riot in their neighbourhood. This way, neighbourhoods where very few households have reported a riot are considered an outlier. While this might miss out on important information, it means we are providing a conservative measure of riot exposure, rather than an over–estimate. As a robustness check we repeated the analysis using different cut–offs for the proportion of households reporting a riot.

Nine neighbourhoods out of 45, or 20% of neighbourhoods, are considered riot–affected by this measure. Table 3.9 summarises both households and neighbourhood level riot data. 30% was chosen as a cut-off point because this was the average number of households reporting a riot in neighbourhoods where at least one hhd reported a riot. When including neighbourhoods where no households reported a riot, the average is 23% of

households reporting a riot in a given neighbourhood. Figure 3.3 plots the proportion for each neighbourhood and includes the cut off line of 30%.

Other variables

We employ a range of respondent, household and neighbourhood level control variables summarised in table 3.9. These variables have been found to be important predictors in the social capital literature (Glaeser et al., 2002; Alesina and La Ferrara, 2002).

In particular, social capital is found to rise then fall with age (Glaeser et al., 2002). Alesina and La Ferrara (2002) find that women are less likely to trust others because they feel discriminated against. Age and sex of the respondent are accounted for in 2010 and 2012. Home owners are found to have higher levels of social capital because of their long–term commitment to their community (DiPasquale and Glaeser, 1999; Glaeser et al., 2002). We include a binary variable equal to one if the household rents their house, a separate variable equal to one if the dwelling is made of permanent materials (for example cement rather than tarpaulin), and a variable measuring the number of months the household has lived in their current house. These variables allow us to control for mobility in our analysis.

Income has proved to be an important predictor of social capital (DiPasquale and Glaeser, 1999). However, some studies have also shown how high social capital leads to higher levels of income (Narayan and Pritchett, 1999; Knack and Keefer, 1997), proving there to be a potentially endogenous relationship between these two variables. By using lagged income levels and random effects to control for any omitted variable bias, we are able to estimate a precise and unbiased effect of income on different forms of social capital.

We control for various identity indicators which could indicate a sense of belonging in the neighbourhood, specifically whether the household is Muslim, whether the household mother tongue is Marathi, and whether the household belongs to the largest caste or religious group in the neighbourhood. In this context we would also expect household size to play a significant role, because larger households have more opportunity to engage in social capital. Respondents were also asked if there was an unsafe location within their neighbourhood, and this was considered in our analysis to represent feelings of safety.

Finally, we also collected certain neighbourhood level indicators which could be indicative of formal and informal institutions. These variables were collected from the field site maps, in particular they are: presence of a police station, *chowk*,[9], Hindu temple, Mosque, and a market.

[9] A *chowk* is the area at an intersection of two roads, this area usually serves as a small open market.

3.5 Identification strategy

This chapter analyses the effect of riots on social capital among households living in urban slums in Maharashtra. There is potential endogeneity bias when considering this relationship.

First, neighbourhood–level unobservables are likely to be important determinants of violence, as well as key determinants of social capital. Certain institutions and cultural characteristics of the neighbourhood could play a significant role in predicting both social capital and exposure to riots, and unless accounted for, these factors could drive the effect of violence. In order to alleviate this problem we estimate a random effects model, which controls for neighbourhood level unobserved heterogeneity. In addition to varying neighbourhood level intercepts, we control for a range of neighbourhood level variables as described earlier. The main variable of interest, whether at least 30% of neighbourhood report a riot, is also measured at the neighbourhood level. Another potentially incriminating factor could be household–level unobservables, but we cannot conceive of any household–level variables that determine neighbourhood level riots as well as social capital.

Using random effects at the neighbourhood level will control for any unobserved neighbourhood level homogeneity. Considering that the main variables of interest are at the neighbourhood level, this will eliminate the interdependence of residuals between households caused by omitted variable bias.

However, random effect models rely on a very strong assumption: the random intercepts must be independent of the covariates. If this assumption is wrong, the estimation will yield biased results, so this has prompted most researchers to steer away from random effects, relying on fixed effects instead (fixed effects would not be applicable in this context because we are interested in estimating certain neighbourhood level effects, rather than wiping them out). For example, we might suspect an interdependence between neighbourhood institutions (the random intercept) and household income (one of the covariates). Fortunately, although not widely used, Mundlak (1978) and Chamberlain (1984) have developed an invaluable tool in solving for the problem of unobservables by controlling for within-neighbourhood means of the covariates. Consider the following equation:

$$P[S_{i,n} = 1] = \Phi[\beta_1 X_i + \beta_2 R_n + \beta_3 M_n + \beta_4 D_n + \beta_5 Z_n + \delta_n + \epsilon_i] \tag{3.1}$$

where $P[S_{i,n} = 1]$ if household i in neighbourhood n displays a given social capital, and $P[S_{i,n} = 0]$ otherwise. Φ is the probit function, or an inverse standard normal transformation of covariates. X_i denotes household level variables, R_n refers to neighbourhood rioting, and Z_n includes a set of neighbourhood characteristics. δ_n are the neighbourhood level random effects. The Mundlak-Chamberlain approach proposes decomposing δ_n into a function of the within–neighbourhood means of the covariates X_i and random

neighbourhood level intercepts, as shown in equation 3.2.

$$\delta_n = \mu_n + \theta \bar{X}_n \tag{3.2}$$

Any dependence between the covariates and the neighbourhood intercepts is captured by the set of within–neighbourhood means of the covariates X_i. For example, institutions could be correlated with household income, but this is captured by the aggregate levels of household income in the neighbourhood. By controlling for the neighbourhood level means of X_i, the intercept μ_n is considered to be independent of X_i. This ensures that the assumption required for a random effects estimation is satisfied.

The second potential source of endogeneity bias results from the fact that social capital may be both a determinant and a consequence of violence. Neighbourhoods with dense ties and high social capital could be targeted by rioters for political reasons. As discussed in Varshney (2001), neighbourhoods with high levels of civic association are less likely to be affected by riots. This potential reverse causality can yield a biased estimate of the effect of violence on social capital. In order to deal with this potential bias, we include in the regression the lag of all covariates by one time period. This ensures that the riots in 2010 $(t-1)$ occur before the social capital observed in 2012 (t).

The combination of lagged covariates, random effects, and neighbourhood level effects provides us with reasonable confidence that our estimates are the result of an exogenous relationship between violence and social capital. By applying these two strategies, we estimate the following equation:

$$P[S_{i,n,t} = 1] = \Phi[\beta_1 X_{i,(t-1)} + \beta_2 R_{n,(t-1)} + \beta_5 Z_{n,(t-1)} + \theta \bar{X}_{n,(t-1)} + \mu_n + \epsilon_i] \tag{3.3}$$

where $P[S_{i,n,t} = 1]$ if household i in neighbourhood n at time t displays a given social capital, and $P[S_{i,n,t} = 0]$ otherwise. The vector of regressors $X_{i(t-1)}$ includes the lags of various household characteristics that are likely to be correlated with violence and social capital, such as household size or income. As per the Mundlak–Chamberlain approach, $\bar{X}_{n,(t-1)}$ is a set of neighbourhood averages of the household and respondent covariates. The variable $R_{n,(t-1)}$ takes the value 1 if the neighbourhood was affected by a severe riot (if at least 30% of respondents in the area report a riot) and 0 otherwise. The vector of regressors $Z_{n,(t-1)}$ includes a set of lagged neighbourhood characteristics, such as the presence of police station, temples, and a mosque in 2010. δ_n is a vector of neighbourhood–specific random effects which absorbs the neighbourhood time–invariant heterogeneity.

All independent variables are summarised in table 3.9 in appendix A. Standard errors are clustered at the neighbourhood level, which allows us to relax the assumption that the standard errors are independent of each other within a given neighbourhood.

When estimating a probit model, the coefficient is interpreted as the effect of a small change in the independent variable on the standardised probit index associated with the event (in this case the event is social capital). In order to provide a more meaningful inference, we can transform these coefficients into marginal (for continuous variables) and

impact (for binary variables) effects.

Consider a simplified version of equation 3.3, illustrated as equation 3.4 below. Suppose we are interested in calculating the marginal effect of age and impact effect of riots on social capital. The marginal effect involves multiplying the estimated coefficient by the standard normal probability density function calculated at the sample averages of the covariates, as in equation 3.5. The impact effect is calculated as the difference in the cumulative distribution function when the binary variable equals one and zero, both calculated at sample averages. This is shown in equation 3.6.

$$P[S_{i,n,t} = 1] = \Phi[\beta_2 R_{n,(t-1)} + \beta_3 Age_{n,(t-1)} + \epsilon_i] \tag{3.4}$$

$$\frac{\delta P}{\delta Age} = \Phi[\beta_2^* R_{avg} + \beta_3^* Age_{avg}] \times \beta_3^* \tag{3.5}$$

$$\Delta = \Phi[\beta_2^* R_{avg} + \beta_3^* Age_{avg}] - \Phi[\beta_3^* Age_{avg}] \tag{3.6}$$

The computation of equation 3.5 is interpreted as the effect (in probability points, or $\frac{1}{100}$ percentage points) of an infinitesimally small change in age on the probability of having a given social capital at the sample averages of specified covariates. On the other hand, computing equation 3.6 tells us that at the average, the probability point increase (or $\frac{1}{100}$ percentage point increase) in the probability of a given social capital occurring when the neighbourhood has experienced a riot.

When reporting the results in the next section we aim to provide marginal and impact effects for easy interpretation. However, when looking at mechanisms in section 3.7, the interaction of two variables makes calculating the marginal/impact effects difficult, as this relies on specific values for the interacted variable. Interpreting interaction terms in a non–linear framework such as a probit estimator is not straightforward from a table of results, especially for continuous conditional variables. This is explained further in the subsequent sections and in some cases marginal/impact effects are illustrated graphically.

3.6 Results

Table 3.11 produces the impact and marginal effects of the estimates of equation 3.3. The equation is estimated for four dependent variables: i. Membership in an organisation (column (1)), ii. Trust towards neighbours (column (2)), iii. Participation in community discussions (column (3)) and iv. Participation in joint festival preparation (column (4)).

Membership in organisations

Column (1) shows that if at least 30% of the respondent's neighbourhood reported a riot, the respondent and his/her household members are 33 percentage points more likely to be part of a group or organisation. As the proportion of households in the neighbourhood that report an unsafe location nearby increases infinitesimally, individuals and/or their household members are more likely to join a group or organisation. In this column we

also see that none of the other respondent, household or neighbourhood–level covariates produce a significant effect on membership in organisations.

Trust in neighbours

Riots do not affect trust significantly, but Muslim and Marathi speaking households are respectively 54 and 53 percentage points more likely to trust their neighbours. In addition, households who rent (rather than own property) are 25 percentage points more likely to trust their neighbours.

Neighbourhoods that are older are less trusting. As the proportion of Muslims and/or Marathi speakers increase in a given neighbourhood, trust towards neighbours decreases. This is opposite in sign to the individual level effect.

Participation in community discussions

In column (3) we see that riot affected households are 16 percentage points less likely to participate in community discussions. Young, male respondents are more likely to report that they, or a member of their household, participate in neighbourhood discussions. Marathi speakers are 25 percentage points more likely to participate in community discussions. Wealthier households are also more likely to join community discussions.

The proportion of tenants (versus landowners) increases the likelihood of community discussions. A neighbourhood with a high proportion of Marathi speakers have low participation in community discussions (again this is opposite in sign to the individual level effect).

Participation in community festival preparation

Riots do not have a significant effect on participation in community festival preparation, as shown in column (4). Households who have more permanent houses (built with brick and concrete rather than tarpaulin) are more likely to participate in festival preparation by 26 percentage points. Wealthier households are also more likely to participate in festival preparation. Households from older neighbourhoods are less likely to participate in festival preparation.

In addition to the main variable of interest and individual and household covariates, we have also described the effect of neighbourhood level averages (average age, proportion of Muslim households, proportion of Marathi speakers, proportion of tenants). These effects represent the so-called "within effects", which unless accounted for would have biased the random effect results. In fact, when testing for the joint significance of the neighbourhood averages in each of these specifications, we find that we cannot reject the null of no joint effect of the neighbourhood averages, except for when the dependent variable is trust of neighbours. It is worth noting that this test of joint significance is effectively the Hausman test that is used to determine which model is better suited to the context and data, the fixed effects or random effects model. In the analysis that follows, neighbourhood averages of lagged covariates are controlled for, but to save space we have not listed these results

in the tables. The coefficients are largely similar to those reported in table 3.11, and can be made available to the readers.

Forms of social capital react differently to different factors. Exposure to violence makes belonging to an organisation more attractive, however households are less likely to participate in discussions. This could indicate an increase in certain types of social capital that are valuable as an insurance mechanism for future shocks, for example joining a group or organisation can build networks, as opposed to participating in community discussions when the actual "sense of community" has been challenged by the riots.

In the following sections we postulate whether the mechanisms behind these effects are related to the social make–up of the neighbourhood, how households relate to their neighbourhood and community, and the different groups within it.

3.7 Mechanisms

Our results have revealed some interesting insights into how riots have affected social capital in urban Maharashtra. In order to explore these results further we see how the effects of rioting might be conditional on the levels of social diversity and out–migration.

3.7.1 Social Diversity and Identity

Does violence generate differentiated effects on social capital depending on the pre–existing degree of social diversity? Diverse neighbourhoods could be less resilient to riots compared to non–polarised neighbourhoods, where neighbours come together in the face of adversity. For example, a riot could increase trust if households largely belong to the same religious/caste group, but decrease it if the neighbourhood is fragmented.

We measure social diversity along three identity dimensions: fractionalisation and polarisation, belonging to the majority/minority group and through the salience of specific identity markers.

Fractionalisation and Polarisation

We focus on three social groups relevant in the India context: religion, caste and *jati*[10]. In our sample, 54% of respondents are Hindus, 39% of respondents are Muslim and the rest are either Christians or Buddhists. The *jati* correspond to the narrow definition of caste, for which 98 different *jatis* are represented in the sample. The Indian government's Mandal commission (1978) classified *jatis* according to certain socio–economic indicators, and this classification was followed to assign each *jati* was assigned to its corresponding caste group. Caste groups correspond to the four broad categories of the Hindu caste system: i.e. Scheduled Tribes (ST), Scheduled Caste (SC, ie. Untouchables), Other

[10] Jati refers to a sub caste.

Backward Castes (OBC) and other (or Forward Castes). 6.51% of the sample is ST, 14.59% SC, 34.96% OBC and 43.94% are other.

Considering social diversity along each of religion, *jati* and caste group simultaneously will lead to multicollinearity because they are highly correlated. For this reason we have combined religion and caste affiliations by considering Muslims (formally outside of the caste system) as an additional category to the caste system. This approach has been taken by scholars who have studied social diversity and heterogeneity in India, particularly Banerjee and Somanathan (2007). According to this categorisation, 4.97% of the sample is ST, 11.19% SC, 16.59% OBC, 26.91% Other caste, and 40.34% Muslim. This categorisation is a slight simplification because in reality the caste system has adapted to apply to Indian Muslims, however its social implications are not as prominent as amongst Hindus.[11]

Social diversity is measured within each neighbourhood by the polarisation and fractionalisation of caste and religious groups, using the indices developed by Esteban and Ray (2008), particularly:

$$F = \sum_i n_i(1 - n_i) = 1 - \sum_i n_i^2$$

$$P = \sum_i n_i^2(1 - n_i)$$

F refers to fractionalisation and P is polarisation. n_i is the share of the population in each neighbourhood belonging to each group i, or ST, SC, OBC, other caste and Muslim. F can be interpreted as the probability that two individuals from a given neighbourhood belong to different social groups. So the higher that F is, the more fractionalised the neighbourhood is. P measures the domination of a certain social group in the neighbourhood, with higher values indicating higher polarisation.[12] While both indexes range between zero and one, it is worth noting that high values of F indicate a large number of small social groups that are evenly represented, and a high value of P indicates a more even distribution of the population between few groups (in the case of P=1, the population would be split equally between two groups).

Table 3.9 provides summary statistics of these social diversity measures. In our sample, fractionalisation ranges between zero (all households in neighbourhood belong to the same religious/caste group) and 0.78. The average fractionalisation is 0.53. This means that on average there is a 53% chance that two households picked at random are from different religion or caste groups. Polarisation ranges from zero (again meaning all households belong to the same caste/religious group) to 0.93, which is highly polarised. On average a neighbourhood has a polarisation index of 0.68, which is considerably high.

[11] Table 3.18 compares the main results of the analysis with different measures of social diversity across the three identity dimensions: religion, caste and *jati*.

[12] The Polarisation index can account for parameters such as intergroup distance and group identity (see Esteban and Ray (2008)), but this is difficult to measure in India and highly subjective.

In this section we interact the neighbourhood experience of a riot with two forms of social diversity: caste/religious group fractionalisation and caste/religious group polarisation, represented in the following equation:

$$\begin{aligned} P[S_{i,n,t} = 1] = \Phi[&\beta_1 X_{i,(t-1)} + \beta_2 R_{n,(t-1)} + \beta_3 D_{n,(t-1)} + \beta_4 Z_{n,(t-1)} \\ &+\beta_5 [R_{n,(t-1)} \times D_{n,(t-1)}] + \theta \bar{X}_{n,(t-1)} + \mu_n + \epsilon_i] \end{aligned} \tag{3.7}$$

The variable $D_{n,(t-1)}$ indicates the extent of social diversity, measured by either polarisation or fractionalisation of the caste/religious group within neighbourhood n. To avoid the issue of multicollinearity, polarisation and fractionalisation will be investigated in two separate regressions.

Equation 3.7 is similar to equation 3.3 except that it includes an augmented interaction term between exposure to violence and pre–existing social diversity and estimates — β_5 — which can be interpreted as the effect of riots on social capital conditional on social diversity. However, keep in mind that this 'effect' is not an impact effect. The impact effects of a riot on social capital are plotted in figures 3.4 to 3.7 for various values of social diversity.

Table 3.12 produces the results of estimating equation 2 with four dependent variables: i. Membership in an organisation (columns (1) and (2)), ii. Trust towards neighbours (columns (3) and (4)), iii. Participation in community discussions (columns (5) and (6)) and iv. Participation in joint festival preparation (columns (7) and (8)). Columns (1), (3), (5), and (7) interact the riot variable with caste/religious group fractionalisation and columns (2), (4), (6), and (8) interact the riot variable with caste/religious group polarisation for each of the five dependent variables.

Membership in organisations

In figure 3.4a we see that there is no effect of a riot on the probability of being part of a group or organisation for all values of caste/religious group fractionalisation. However, conditional on polarisation, figure 3.4b shows that in non–polarised neighbourhoods riots reduce the probability of belonging to an organisation by 570 percentage points. As polarisation increases this effect becomes smaller, and in highly polarised neighbourhoods there is a positive effect of riots on the probability of membership — this reaches a maximum of an increase in 222 percentage points. This result should be compared to the main results in table 3.11, where riots increase membership in groups and organisations by 33 percentage points, independent of any measure of diversity.

Trust in neighbours

Figure 3.5a shows that in non–fragmented neighbourhoods riots have a positive effect on trust — there is a maximum increase of around 118 percentage points in non–fractionalised neighbourhoods. When fractionalisation is in the medium range, i.e. the index is between 0.6 and 0.8, the effect of riots on trust is negative but insignificant. In highly fractionalised neighbourhoods, i.e. when the index is greater than 0.8, the effect of a riot does become

significant, and reduces trust by 50 to 131 percentage points. The impact effect of a riot on the probability of trusting neighbours conditional on polarisation is never significantly different than zero, as shown in figure 3.5b.

Participation in community discussions

Figure 3.6a shows that in neighbourhoods where fractionalisation is 0.4 and lower, the effect of a riot is to increase participation in community discussions — but this effect is not significant. When fractionalisation is above 0.4, there is a negative effect of a riot on the probability of participating in a community discussion, reaching around -76 percentage points in completely fractionalised neighbourhoods. Figure 3.6b shows that there is a trend of the effect of riots on the probability of participating in community discussions that ranges from a negative effect in polarised neighbourhoods, to a positive effect in non–polarised neighbourhoods. However, this effect is only significantly different from zero when polarisation ranges from 0.5 to 0.7 and the impact effect ranges from a 67 to 29 percentage point decrease.

Participation in joint community festival preparations

The effect of riots on the probability of participating in festival preparation is negative for all levels of fractionalisation, but these effects are not significantly different from zero, as shown in figure 3.7a. Figure 3.7b shows how the effect of a riot on participating in festival preparation is mostly significantly negative (ranging from a 280 to 34 percentage point decrease), and the effect becomes smaller in more polarised neighbourhoods. At polarisation levels higher than 0.8, riots have a positive effect on festival preparations, but this is not significantly different from zero.

This means that social heterogeneity has the potential to improve certain social capital in riot affected neighbourhoods. Households are more likely to belong to an organisation, and the negative effect of a riot on joining festival preparation is lessened. While this is a somewhat counter–intuitive result, this can be interpreted as a household insurance mechanism towards future riots. Worried that they will be attacked the next riot, a household might invest in "bridging social capital", building networks with individuals and households from other social groups.

However, heterogeneous riot–affected neighbourhoods are most affected in terms of a reduction in trust towards neighbours and contributing to community discussions. This could indicate that beneath the increased participation and investments in bridging social capital at the surface level, riots still cause lower levels of trust and less active community discussions in fractionalised societies.

Majority versus Minority

Riots are likely to affect households differently if they belong to the majority or minority of their community, independently of their social group. Those in the majority might see a riot as an attack on their neighbourhood, and will engage in bonding social capital that

can defend against future aggressions. Those from the minority group could potentially withdraw from their community, becoming less trusting and less social to the point that they migrate to a neighbourhood of more similar households. Jaffrelot (2006) shows that in Gujarat, after riots, people who are local minorities tend to migrate to neighbourhoods where their groups are dominant, thereby increasing the degree of urban clustering of neighbourhoods by identities. In this section we repeat the analysis from equation 3.3 above, but separate the sample into those who belong to the majority religious/caste group, and those who do not. This variable has been used as an independent variable previously, and while we did not see an effect on social capital alone, we test to see if it changes the way riots affect social capital in table 3.13.

For those who belong to the minority, a riot reduces trust of neighbours by 58 percentage points. For those who belong to the majority, there is no effect of riots on trust.

When separating the sample in this way, riots do not have an effect on the other social capital variables, namely participation in organisations, community discussions and community preparation. This is despite the fact that when looking at the sample as a whole, riots increase participation in organisations and decrease participation in discussions.

These results indicate different behaviours depending on the households' standing in the community. A riot will make those belonging to the minority group less trusting of their neighbours, and we can imagine this is because their neighbours are likely to belong to a different religious/caste group when the respondent belongs to the minority religious/caste group. This result further substantiates the difference in bridging and bonding social capital and the need to differentiate between the two.

However, this mechanism cannot be driving the results seen in section 3.6, as participation in organisations and discussions is not affected by riots for either the minority or majority group.

Identities

As shown by Wilkinson (2004, 2005), riots are sometimes used by elites to "encourage members of their wider ethnic category to identify with their party and the 'majority' identity rather than a party that is identified with economic redistribution or some ideological agenda". An important question then follows, do riots also exert an impact on the salience of shared identities?

To investigate the effect of violence on the salience of shared identities, we exploit "vignettes", which were presented to respondents in the second wave of MHLS. Vignettes are "short stories about hypothetical characters in specified circumstances, to whose situation the interviewee is invited to respond" (Finch, 1987). The use of vignettes in surveys provides a useful research method to investigate respondents' beliefs, attitudes and judgements (Atzmüller and Steiner, 2010; Finch, 1987; Nock and Rossi, 1982; Seekings, 2008), by providing a rich contextual background and randomising certain aspects of the context

that are significant variables in explaining beliefs. While we could have directly asked the respondents for their opinions and attitudes towards people of the same religious/caste group, we are unlikely to have elicited honest responses. This could be because respondents want to impress the interviewers and respond in a way that they think will be socially approved of, or because these biases and factors that influence judgement are actually subconscious so that the respondent is not actually aware of them (Alexander and Becker, 1978).

As an example, Thaler (2014) studies attitudes towards intimate partner violence in South Africa by providing a scenario to respondents in which a husband hits his wife. There are four reasons for why the husband hits his wife: suspicion of adultery, committing adultery, preparing food he does not like and disobeying him. These reasons are randomly assigned to each respondent and they are subsequently asked whether they think the act is acceptable. Perhaps unsurprisingly, acceptance is highest when adultery is committed or suspected compared to the other two situations. However, this attitude towards intimate partner violence would not have been uncovered through a direct question, as respondents might have been inclined to report that they were not accepting of intimate partner violence under any conditions. In this way, the researcher can see how average acceptance changes when key factors in the vignette change, and then test to see which covariates, such as gender, race, education, and employment, play a role in this acceptance (or lack of).

In our study, respondents were asked if they would be willing to give some money (3,000 *Rupees*, the equivalent of around £35 in 2012) to a person living in their neighbourhood, for a given reason. The name of the person living in the neighbourhood and the reason that they needed the money were randomised for each interview. The persons asking for the money could be named *Yadav*, *Hanif* or *Deshpande*, and the reason for the request of money could be to repay a loan, bribe a local goon or buy a festive saree. In the current analysis, we pool these three reasons for request of money together, as this dimension is not central to the research question. Rather, we focus on the randomised name of character.

Yadav is a name typical to Hindus from OBC caste category, *Hanif* is a Muslim name and *Deshpande* is typical Hindu upper caste name. For each respondent, we created a variable taking the value 1 if the identity of the respondent matches the identity of the person in the vignette and 0 otherwise. Dalits, or untouchables, are excluded from this analysis as they cannot identify with any possible identity to the same extent as the other groups.

Before proceeding with the analysis we first tested whether random assignment of the vignette characters has actually created three groups from the sample that are roughly the same. Often studies have relied on a simple balance test of treatment and control groups to ensure random assignment, but in the case of three groups this is slightly more cumbersome and makes inference difficult. We tested first for differences in any of the covariates used in the analysis between *Deshpande* and *Hanif*, *Deshpande* and *Yadav*, and *Hanif* and *Yadav*. This resulted in 66 tests (22 covariates for each of these 3 combinations).

Of these 66 tests, 9 showed a statistically significant difference in covariates. This is a reasonable result given the large number of tests. In addition, we regressed each of these covariates[13] on the character assignment, and then tested the joint significance of character assignment.[14] The results of these orthogonality tests are shown in table 3.10, and character assignment is only a significant predictor of belonging to the majority caste or religious group, again a reasonable result. Finally, we regress each character assignment on all the covariates and test for joint significance of the covariates[15] — they do not prove to be significant predictors. Based on these tests we can be certain that the character assignment is random, providing exogeneity in the subsequent analysis.

The dependent variable of interest is willingness to give money, which is equal to one if the respondent has said that they would be happy to offer money to the character in the vignette. We regress the willingness to give money on whether there is a shared identity between the vignette character and the respondent. We include the same household and neighbourhood level covariates (including neighbourhood means of household covariates) as the analysis above. In addition we include a variable indicating the character randomly assigned to the respondent.

$$\begin{aligned} P[G_{i,n,t} = 1] = \Phi[&\alpha_1 SI_{i,(t-1)} + \alpha_2 C_{i,(t-1)} + \beta_1 X_{i,(t-1)} \\ &+\beta_2 Z_{n,(t-1)} + \theta \bar{X}_{n,(t-1)} + \mu_n + \epsilon_i] \end{aligned} \tag{3.8}$$

This model also uses the probit function, Φ, the inverse standard normal transformation of covariates. $P[G_{i,n,t} = 1]$ is the probability of giving money to the character in the vignette, and $SI_{i,(t-1)}$ is a binary indicator taking the value 1 if there is a shared identity between the respondent and the character in the vignette, and 0 otherwise. $C_{i,(t-1)}$ is a set of two binary variables representing the character assignment (the variable indicating *Yadav* was omitted and acts as the base for comparison). $X_{i,(t-1)}$ are household characteristics, $Z_{n,(t-1)}$ neighbourhood level characteristics, and $\bar{X}_{n,(t-1)}$ are the neighbourhood level means of respondent and household characteristics.

Column (1) in table 3.14 shows that a shared identity with the character in the vignette makes the respondent 24 percentage points more likely to give money to this character. We then explore whether the salience of shared identities increases with riots. We estimate the following equation:

$$\begin{aligned} P[G_{i,n,t} = 1] = \Phi[&\alpha_1 SI_{i,(t-1)} + \alpha_2 C_{i,(t-1)} + \beta_1 X_{i,(t-1)} + \beta_2 R_{n,(t-1)} \\ &+\beta_5 Z_{n,(t-1)} + \beta_6 [R_{n,(t-1)} \times SI_{i,(t-1)}] + \theta \bar{X}_{n,(t-1)} + \mu_n + \epsilon_i] \end{aligned} \tag{3.9}$$

In equation 3.9 there is an additional term of $R_{n,(t-1)} \times SI_{i,(t-1)}$ which captures the interaction between riots and shared identity. $R_{n,(t-1)}$ is a binary variable equal to one if

[13] For continuous variables we use a neighbourhood fixed effects OLS estimation, and for binary variables a neighbourhood fixed effect logit estimation.

[14] The p–value of the F–statistic is recorded for continuous variables, whereas the p–value of the Chi–squared is recorded for binary variables.

[15] This is using a neighbourhood fixed effect logit estimation, and joint significance is tested using a Chi–squared distribution.

at least 30% of households in a neighbourhood reported a riot.

Column (2) of table 3.14 show these results, and figure 3.8 compares the impact effect of a riot in riot affected and less affected neighbourhoods. A comparison of these results shows that the impact of shared identity on the willingness to give is driven by those who have not been affected by riots. These households are 28 percentage point more likely to give if they match the identity with the character in the vignette. On the other hand, those who experience riots are not more likely to give money if their identity is shared with that in the vignette. This comparison shows that experiencing a riot reduces the salience of identity. This result might seem counter–intuitive, but it can be explained by a need to 'curry favour' with individuals from different social groups, hoping to build new bridging social capital that will be useful in the face of future riots or communal violence.

3.7.2 Out-migration

In this section we explore whether out–migration mediates the effect of riots on social capital. It could be that when households learn of others who have left their community, they feel a lesser extent of "belonging", and thus no incentive to invest in social capital when faced with a riot. On the other hand, if out–migration is high, this could indicate that there has been a shift to a more homogeneous neighbourhood (this is what Jaffrelot (2006) found after the Gujarat riots), and riots will increase bonding social capital between new members. In addition, those who migrated could have been those whose social capital was most affected by riots, and saw migration as the ultimate disinvestment from the neighbourhood and community. These households will be replaced by new households who never experienced the riot, and have no reason to change their social capital. This can lead to an over–all 'dulling' of the impact of riots on social capital.

The migration variable is measured in 2012, and depends on whether the household was located during the second wave of data collection. If the data collectors found a new household residing in the dwelling from the first wave, or a dwelling that was completely empty (with no signs of habitation), we deduced that the household had since migrated. In both cases this was confirmed by talking to the current residents or neighbours. If the household was not available or refused to be interviewed, then they are not considered to have migrated. For each neighbourhood, the proportion of households who had migrated was constructed. Summary statistics for these variables can be found in table 3.9. The out–migration proportion ranges from 0% to 26% of households across all neighbourhoods, and the average level of out–migration is 7.4%.

To answer the question of whether the effect of riots are conditional on out–migration, we estimate the following equation:

$$\begin{aligned} P[S_{i,n,t} = 1] = \Phi[\beta_1 X_{i,(t-1)} + \beta_2 R_{n,(t-1)} + \beta_3 M_{n,(t-1)} \\ + \beta_4 Z_{n,(t-1)} + \beta_5 [R_{n,(t-1)} \times M_{n,(t-1)}] + \theta \bar{X}_{n,(t-1)} + \mu_n + \epsilon_i] \end{aligned} \tag{3.10}$$

$M_{n,(t-1)}$ is the neighbourhood average migration. Equation 3.10 is similar to equation 3.3 except that it includes an augmented interaction term between exposure to violence and out–migration, allowing us to estimate the coefficient of interest, β_5. Again, since average migration is a continuous variable, figures 3.9a to 3.9d illustrate the conditional impact effects of riots on social capital.

Membership in organisations

In section 3.6 we saw that riots increase participation in organisations, but as shown in figure 3.9a, this is largely driven by neighbourhoods that have low levels of out–migration. In these neighbourhoods of low migration, riots can increase participation in organisations between 86 and 31 percentage points when migration ranges between 0 and 7% of the neighbourhood. Above these levels riots do not have a significant effect of belonging to an organisation.

Trust in neighbours

The effect of riots on trust is negative when out–migration is low and positive when out–migration is high (figure 3.9b). There is a clear change in impact of riots, so that conditional on low migration, riots can decrease trust by 77 to 35 percentage points. When out–migration reaches levels of 10% and higher, riots have the potential to increase trust in neighbours, from a 30 to 136 percentage point increase.

Participation in community discussions

The main results showed that riots would decrease participation in community discussions by 16 percentage points, and we see that this is largely driven by neighbourhoods with low out–migration (figure 3.9c). When out–migration ranges from zero to 7% of the neighbourhood, the effect of rioting ranges between a 37 and 16 percentage point decrease in the probability of participating in community discussions. Beyond 7% migration, the effect of riots are no longer significant.

Participation in joint community festival preparation

In figure 3.9d we observe that riots will slightly significantly reduce the probability of participating in festival preparation when out–migration is lower than 2% of households, but the effect is not significant otherwise.

Out–migration proves to be a significant mechanism in explaining the effect of riots. If joining a group or organisation is an investment in bridging social capital to protect against future shocks, we can imagine that this will be most effective in stable communities where out–migration does not occur frequently. However, if migration is high, social networks will shift as individuals and households migrate and drop out, and thus the benefits of investing in social capital will decrease.

The other interesting result we find is that riots reduce trust, the likelihood of participating in a group/organisation and community discussions when out–migration is low. This confirms the hypothesis mentioned in section 3.2. The effect of a riot is diluted in

neighbourhoods with high out–migration because households who were most likely to have lower social capital because of riots have since migrated. On the other hand, new households, most likely more similar in characteristics to others in the neighbourhood, have not been affected by riots and do not change their investments in social capital.

3.8 Robustness Checks

In this section we perform a range of checks to ensure that our results are robust to different estimation specifications and variable measurements.

3.8.1 Correcting for attrition

As mentioned earlier, a significant portion of the sample were not available or willing to be interviewed for the 2012 wave of the survey. As table 3.3 showed, there are a few differences between households who were tracked and those who were not tracked when comparing certain socio-economic conditions. While we have controlled for all of these variables, we also perform a Heckman two–stage regression to correct for selection bias. The first stage is a probit model which predicts selection into the second wave of the survey, the regressors are the same as for the main analysis, but we also include a set of variables which are likely to affect attrition. These are: reporting fear of travelling to the nearest town alone, fear of walking alone in the neighbourhood, poor amenities in the neighbourhood, feelings of safety of female household members in neighbourhood during the day and night, and finally reporting that household would like to move if possible. It is this latter variable that is the most significant predictor of selection, as shown in table 3.16. The pseudo–residuals from this equation are then stored (called the inverse–Mills ratio), representing unexplained selection into the second wave. We then run the same regression as equation 3.3, but include the inverse–Mills ratio as one of the covariates. As shown in table 3.17, the results do not change, and the coefficient for the inverse–Mills ratio is not significant in all specifications, indicating that attrition has not biased our results.

3.8.2 Looking at different types of social diversity

In these specifications we get a better picture of which types of social diversity matter: diversity of caste groups, castes or religions. Table 3.18 summarises these results, comparing the conditional effects of riots and social diversity, as well as their interaction, on the different forms of social capital. The main results, when looking at religious/caste group diversity, are also included in table 3.18 for comparison. Some of the effects of riots on social capital differ depending on the type of social diversity used, and this is to be expected. For example, it makes sense that religious diversity is more relevant in explaining

commitment to festival preparation, because festivals are usually religious in nature. The main results still fall within the range of these coefficients (if not more conservative).

3.8.3 Different measures of neighbourhood–level rioting

Neighbourhood level experience of rioting was chosen to be equal to one if 30% of households in the neighbourhood had reported a riot, because this was the average level of rioting across neighbourhoods in our sample if at least one household had reported a riot. In order to see whether our results are sensitive to different measures of rioting, we repeated the analysis at different cut-off levels, ranging from 5% to 95% of households reporting a riot in the neighbourhood. The impact effect of riots across these specifications are plotted in figure 3.10 for each of membership in organisations, trust, participation in community discussions and festival preparations. It is interesting to note that the impact effect of riots behaves quite differently at the extremities, i.e. when the cut–off for reporting riots is 20% and below, or 80% and above. This could be because of the severity of the riots in the high extremity, but also because of certain self–reporting or respondent induced biases in the lower extremity. But within the range of 20% to 80% of households reporting a riot, the impact effect of rioting on social capital is largely similar.

3.9 Conclusion

This study has explored the relationship between exposure to riots and social capital in urban Maharashtra. We have made use of a panel dataset collected by the authors and applied a random effects model with lagged covariates to estimate an exogenous relationship between neighbourhood exposure to riots and four forms of social capital: membership in a group or organisation, trust in neighbours, participation in community discussions and participation in community festival preparations.

Consistent with Bellows and Miguel's study of conflict and social capital (2009), we find that households living in neighbourhoods that experienced a riot are more likely to be members of groups and organisations. On the other hand, we find that these households are less likely to join community discussions, which lends more to the hypothesis of fragmented post–conflict societies with a damaged social fabric (Colletta and Cullen, 2000).

This chapter goes a step further than previous studies and aims to understand how neighbourhood composition and stability affects the relationship between violence and social capital. We find the increased membership in organisations is greatest in diverse neighbourhoods that are stable in terms of out–migration. This indicates that joining groups and organisations serves as a precaution to protect households against future riots. Armed with new relationships and networks that include individuals and households from other social groups, participating in groups and organisations can spare households in case of another episode of communal violence. In homogeneous neighbourhoods the positive impact of riots is reversed, possibly because there is no pay–off to trying to build 'bridging

networks' in neighbourhoods of households that are mostly similar. In addition, migration can be seen as the ultimate dis–investment in social capital, leaving behind households who are more sociable and less affected by riots.

This result is further substantiated by the vignette analysis which finds that respondents in riot affected neighbourhoods are no more and no less willing to give money in an emergency to someone with whom they share a social identity. By refusing to differentiate, these households could be trying to build networks and establish a system of reciprocity. By giving money to someone the respondent can claim a favour in the future, and if this person belongs to a different social group, this favour could be protection during a communal riot.

Unfortunately this positive relationship does not hold for other forms of social capital. Riots cause a reduction in participation in community discussions, trust is reduced in fragmented and polarised riot–affected neighbourhoods, and participation in festival preparation decreases in riot exposed neighbourhoods with low out–migration.

When looking at membership in organisations, our analysis provided insight into how individuals and households instrumentally use social capital to their advantage. However, if we look under this surface level networking, and focus rather on trust and sense of community, there is quite a different picture. Riots can have adverse effects on social capital, but as this chapter has shown, the relationship is far from simple.

This chapter contributes to an emerging body of literature on the effect of armed conflict on social capital (Bellows and Miguel, 2009; Blattman, 2009; Michal et al., 2011; Gilligan et al., 2014; Voors et al., 2012). The current literature has missed out on how low–intensity violence, such as riots, can affect forms of social capital, the gap that this chapter will fill. In addition, this chapter has addressed the mechanisms behind this relationship, demonstrating its complexity and dependence on the composition of the neighbourhood, in terms of social diversity and stability.

Riots are an endemic feature of life in urban Maharashtra. Beyond the physical and economic losses suffered by those affected, we have also shown how social capital can be destroyed in polarised and fragmented neighbourhoods. However, civic association shows signs of improving upon exposure to riots, a fundamental building block for lasting peace in fragmented societies, according to Varshney (2001). This analysis has shown that there is agency and thoughtful consideration in building some types of social capital, but that this is a fragile outcome.

3.10 Appendix A: Tables and Figures

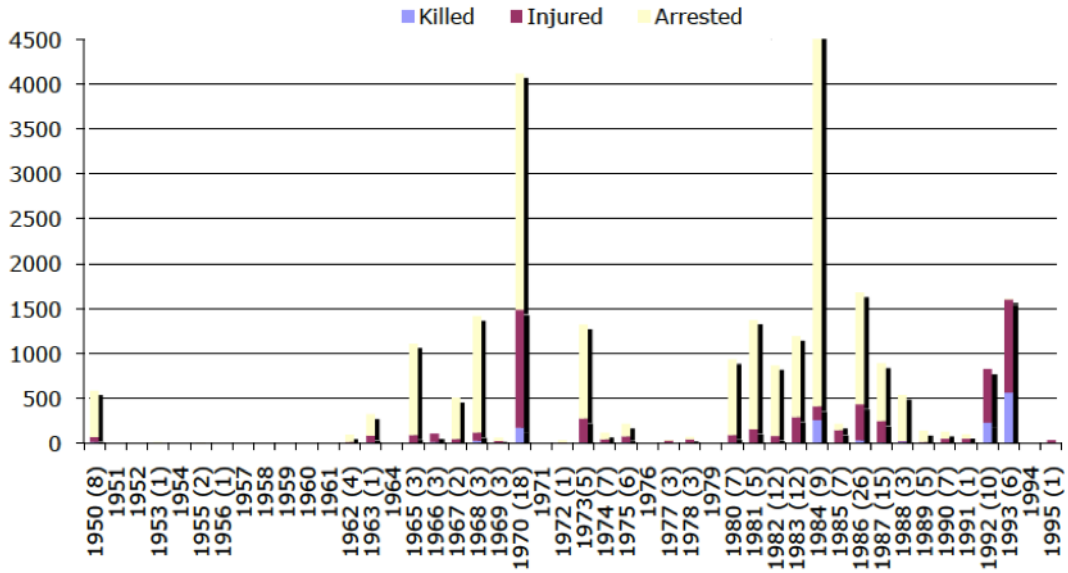


Figure 3.1: Hindu–Muslim riots in Maharashtra — Killed, Injured, Arrested 1950–1995. (Number of riots in each year shown in parentheses). Graph was compiled by the authors and is based on a dataset collected by Varshney and Wilkinson who screened the Mumbai edition of the Times of India for communal violence events (Wilkinson, 2004; Varshney, 2002).

Figure 3.2: Number of riots in Maharashtra per month, from January 2008 to January 2012

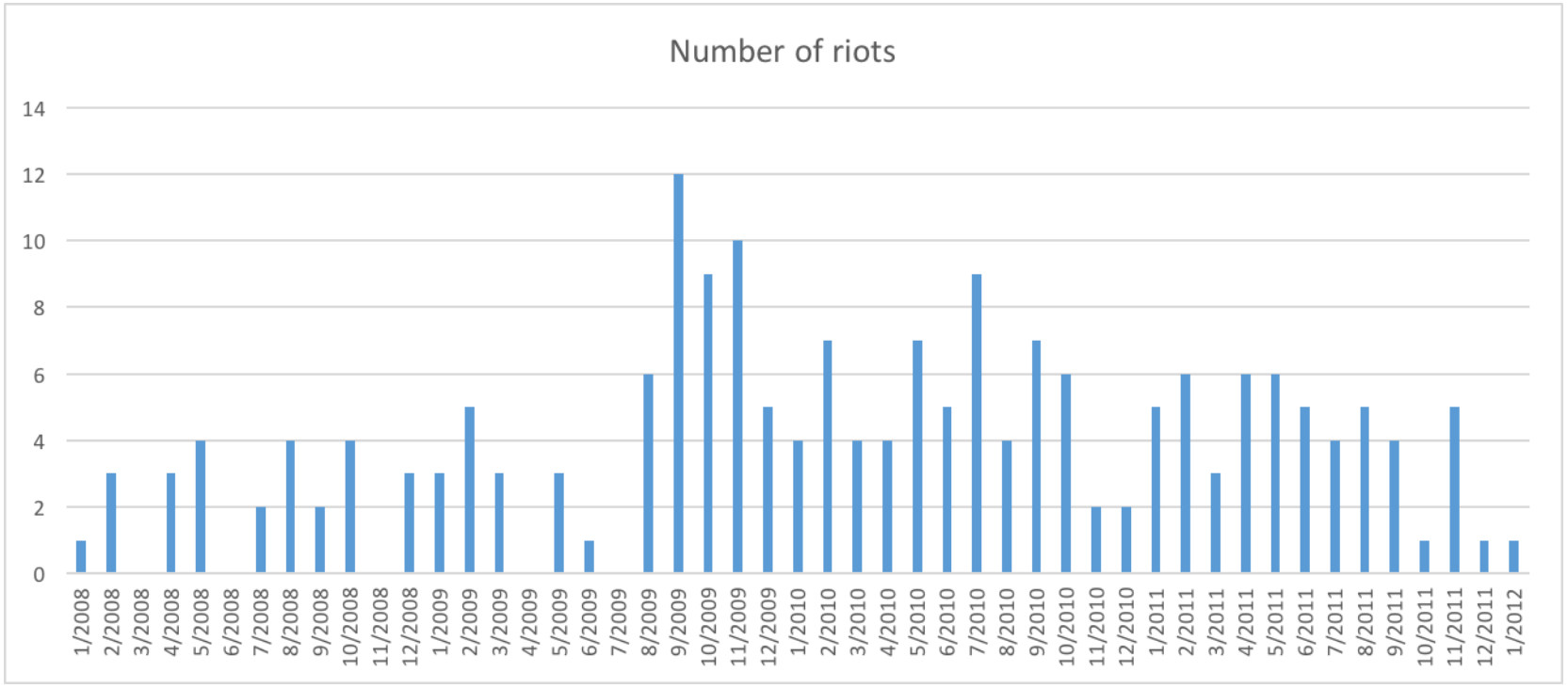


Table 3.1: Summary statistics of newspaper reported riot data

Variable	Mean	Std. Dev.	Min.	Max.	N
Duration of riot in days	1.111	0.802	1	12	225
At least one civilian was injured	0.427	0.496	0	1	225
At least one civilian was killed	0.076	0.265	0	1	225
At least one policeman was injured	0.173	0.379	0	1	225
At least one policeman was killed	0	0	0	0	225
An arrest or charge was made	0.258	0.438	0	1	225
Number of charges	1.298	6.817	0	61	225
Number of arrests	11.924	71.503	0	1000	225
Police engaged in violence against civilians	0.249	0.433	0	1	225
A curfew was enforced due to the riot	0.089	0.285	0	1	225
The riot spread to neighbouring towns/communities	0.044	0.207	0	1	225
There was a communal element to the riot	0.569	0.496	0	1	225
The riot initiated from a personal dispute	0.209	0.407	0	1	225
The riot was initiated by a rumour	0.027	0.161	0	1	225
The riot initiated from a protest	0.164	0.372	0	1	225
The riot initiated from a *Raasta roko*	0.058	0.234	0	1	225
The riot was initiated by a slum demolition (attempted or completed)	0.031	0.174	0	1	225
The riot was related to an election	0.089	0.285	0	1	225
The riot involved a *Bandh*	0.071	0.258	0	1	225
The riot caused physical damage to public or private property	0.262	0.441	0	1	225
Modality of Violence					
Stone throwing	0.511	0.501	0	1	225
Bottle throwing	0.027	0.161	0	1	225
Physical fight	0.271	0.446	0	1	225
Physical attack	0.067	0.25	0	1	225
Physical beating	0.062	0.242	0	1	225
Physical scuffle	0.04	0.196	0	1	225
Arson	0.084	0.279	0	1	225
Vandalism	0.08	0.272	0	1	225
Looting	0.013	0.115	0	1	225
Tire burning	0.004	0.067	0	1	225

3.10.1 Attrition

Table 3.3: Differences in socio–economic characteristics (2010) between tracked and not tracked households

	Mean		
Variable	**Tracked**	**Not tracked**	**Diff.**
Household member belongs to an organisation	0.14	0.10	0.04
	(0.01)	(0.02)	(0.03)
Trust towards neighbours	0.4	0.29	0.11
	(0.02)	(0.03)	(0.04)
Report a riot taking place in neighbourhood	0.24	0.16	0.07**

	(0.01)	(0.03)	(0.03)
At least 30% report a riot in neighbourhood	]0.21	0.15	0.06*
	(0.01)	(0.02)	(0.03)
Caste group/Religious fractionalisation	0.54	0.49	0.04***
	(0.01)	(0.02)	(0.02)
Caste group/Religious polarisation	0.69	0.64	0.05***
	(0.01)	(0.02)	(0.02)
Age of respondent	34.05	32.7 7	1.27
	(0.35)	(0.69)	(0.79)
Sex of respondent (1=Male)	0.34	0.32	0.03
	(0.02)	(0.03)	(0.04)
Permanent house materials	0.53	0.66	−0.13***
	(0.02)	(0.03)	(0.04)
Household is Muslim	0.39	0.41	-0.03
	(0.02)	(0.03)	(0.04)
Household size	6.55	4.82	1.74***
	(0.11)	(0.13)	(0.24)
Household rents house (0=Owns)	0.14	0.41	−0.27***
	(0.01)	(0.03)	(0.03)
Log of monthly income per capita	6.84	7.19	−0.34***
	(0.03)	(0.05)	(0.06)
Mother tongue is Marathi	0.51	0.44	0.07*
	(0.02)	(0.03)	(0.04)
There is an unsafe location nearby	0.1	0.07	0.02
	(0.01)	(0.02)	(0.02)
Hhd belongs to predominant religion/caste group	0.62	0.65	−0.03
	(0.02)	(0.03)	(0.04)

3.10.2 Summary statistics

Table 3.4: Description of social capital variables

Variable	**Description from questionnaire**
Household member belongs to an organisation	Are you or any other household member a member of the following groups or organisations? (Political party; Trade union; Student organization; Farmer's organization; Cooperative; Sports/cultural organization; Gym; Women's group; Local *Mohallas* committee; Caste *Panchayat*/*Sabha*/association; Religious organizations; Youth Organisation; Village redressial committee; Other group or organisation)
Household participates in community discussions	How common is it that you or a family member participates in a community discussion? (All the time; Sometimes; Never)
Household participates in festival preparation	How common is it that you or a family member will take part in the preparation? (All the time; Sometimes; Never)

Trust towards neighbours	Would you trust your money or assets for safekeeping with your neighbours (Yes; No)

Table 3.5: Summary statistics of social capital variables

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Household member belongs to an organisation	0.159	0.366	0	1	1088
Trust towards neighbours	0.171	0.377	0	1	1087
Household participates in community discussions	0.421	0.494	0	1	1088
Household participates in festival preparation	0.692	0.462	0	1	1088

Table 3.2: Reason household was not re–interviewed

Reason	**Frequency**	**Percentage**
Household had since migrated	81	37.85%
Could not find original dwelling	68	31.05%
No respondent was available	65	29.68%
Household refused	5	2.28%
Total	**219**	**100%**

Figure 3.3: Proportion of self-reported riots in each neighbourhood

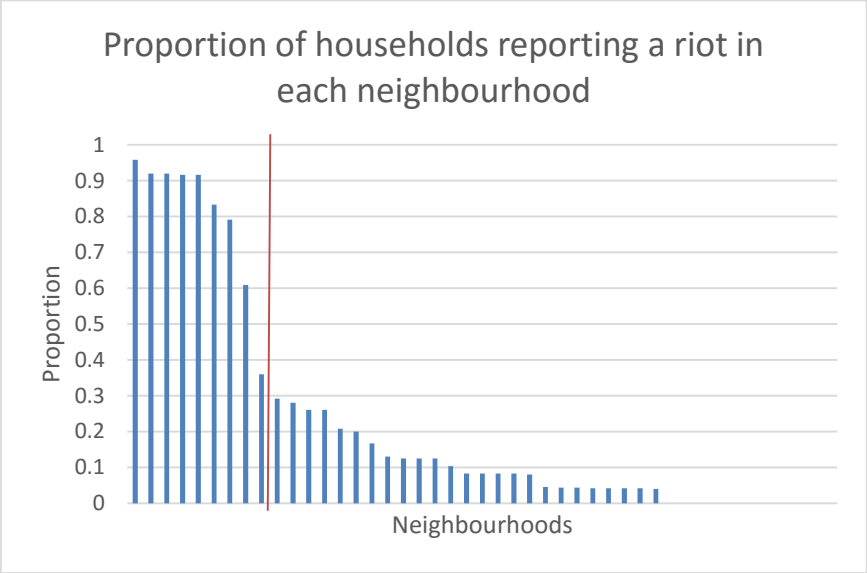


Table 3.6: Differences in social capital variables separated by whether at least 30% of neighbourhood reports a riot

	Mean		
Variable	**Riot**	**No riot**	**Diff.**
Household member belongs to an organisation	0.27	0.14	0.12***
	(0.03)	(0.01)	(0.03)
Trust towards neighbours	0.11	0.19	−0.07 ∗ ∗
	(0.02)	(0.02)	(0.03)
Household participates in community discussions	0.34	0.45	−0.1 ∗ ∗∗
	(0.04)	(0.02)	(0.02)
Household participates in festival preparation	0.63	0.72	−0.08 ∗ ∗
	(0.04)	(0.02)	(0.04)

Table 3.7: Occurrence of riot related events in neighbourhood and subsequent actions by respondents in 2010

		Action taken by respondents who reported event occurring in neighbourhood								
Events	Number of respondents reporting at least one event occurring in neighbourhood	I was involved	Watched from far	Harboured others in my house	Called the police	Joined neighbourhood effort to stop the event	Contributed money to relief efforts	Went home and shut the door	Did nothing	Did not actually see it
Rioting	237 21.76%	0 0%	10 4.22%	1 0.42%	4 1.69%	4 1.69%	1 0.42%	96 40.51%	73 30.8%	49 20.68%
Stone pelting	221 20.29%	1 0.45%	7 3.17%	0 0%	5 2.26%	2 0.9%	0 0%	82 37.1%	60 27.15%	43 19.46%
Public fights	217 19.93%	1 0.46%	19 8.76%	1 0.46%	2 0.92%	4 1.84%	0 0%	75 34.56%	74 34.1%	56 25.81%
Tire burning	87 7.99%	0 0%	4 4.6%	0 0%	0 0%	0 0%	0 0%	36 36%	35 40.23%	15 17.24%
Damaging of bus or public property	66 6.06%	0 0%	2 3.03%	0 0%	0 0%	0 0%	0 0%	27 40.91%	27 40.91%	11 16.67%
Police harassment	30 2.75%	0 0	1 3.33%	0 0%	0 0%	0 0%	0 0%	5 16.67%	14 46.67%	9 30%
Agitation related to a *bandh*	86 7.9%	0 0%	3 3.49%	0 0%	0 0%	0 0%	0 0%	39 45.35%	28 32.56%	16 18.6%
Violence during curfew	150 13.77%	0 0%	4 2.67%	0 0%	0 0%	0 0%	0 0%	59 39.33%	56 37.33%	31 20.67%
Bottle throwing	72 6.61%	0 0%	2 2.78%	0 0%	1 1.39%	0 0%	0 0%	32 44.44%	25 34.72%	11 15.28%

Table 3.8: Summary statistics of respondent experience of a riot

Variable	Mean	Std. Dev.	Min.	Max.	N
Are riots affecting your neighbourhood a concern for you?	0.096	0.294	0	1	1089
Household has experienced a riot in the last two years	0.124	0.33	0	1	1089
Because of experience of a riot the household was in need of money	0.743	0.443	0	1	35
Amount of money needed (in Rupees)	10,150	13,569.179	600	50,000	24

Table 3.9: Summary statistics of independent variables

Variable	Mean	Std. Dev.	Min.	Max.	N
Household/Respondent level variables					
Report riot taking place in neighbourhood	0.235	0.424	0	1	867
Age of respondent	39.13	13.34	15	90	874
Sex of respondent (1=Male)	0.375	0.484	0	1	874
Permanent house materials	0.527	0.5	0	1	867
Household is Muslim	0.386	0.487	0	1	867
Household size	6.562	3.369	1	26	867
Household rents house (0=Owns)	0.133	0.339	0	1	867
Log of monthly income per capita	6.841	0.75	4.711	11.027	854
Mother tongue is Marathi	0.509	0.5	0	1	867
Months lived in current house	18.984	14.282	0	65	859
There is an unsafe location nearby	0.099	0.299	0	1	867
Hhd belongs to predominant religion/caste group	0.621	0.486	0	1	867
Neighbourhood level variables					
At least 30% of neighbourhood report a riot	0.2	0.405	0	1	45
Proportion of households migrated by 2012	0.074	0.065	0	0.261	45
Police station in neighbourhood	0.111	0.318	0	1	45
Chowk in neighbourhood	0.4	0.495	0	1	45
Hindu temple in neighbourhood	0.489	0.506	0	1	45
Mosque in neighbourhood	0.378	0.49	0	1	45
Market in neighbourhood	0.2	0.405	0	1	45
Caste group/Religious fractionalisation	0.526	0.217	0	0.778	45
Caste group/Religious polarisation	0.678	0.217	0	0.932	45
Religious polarisation	0.613	0.282	0	1	45
Religious fractionalisation	0.342	0.174	0	0.635	45
Caste group polarisation	0.834	0.09	0.445	0.992	45
Caste group fractionalisation	0.584	0.104	0.244	0.727	45
Caste polarisation	0.496	0.118	0.281	0.806	45
Caste fractionalisation	0.827	0.069	0.583	0.922	45

3.10.3 Test of orthogonality of vignette character assignment

Table 3.10: Test of orthogonality

	Mean			Joint significance of *Deshpande* and *Hanif*
Characteristic	***Deshpande***	***Hanif***	***Yadev***	**Orthogonality test**
Main variables in analysis				
At least 30% of neighbourhood witnessed a riot	0.17	0.24	0.23	–
Caste group/religious fractionalisation	0.54	0.52	0.54	–
Caste group/religious polarisation	0.69	0.68	0.69	–
Average household migrated in neighbourhood	0.07	0.07	0.08	–
Respondent level variables 2012				
Age (2012)	39.05	39.33	38.27	0.525
Sex (2012)	0.38	0.31	0.35	0.277
Lagged respondent and household variables				
Age (2010)	33.68	34.89	33.75	0.277
Sex (2010)	0.37	0.31	0.36	0.384
Dwelling made of permanent material	0.51	0.55	0.51	0.502
Household is Muslim	0.39	0.39	0.39	0.851
Household size	6.5	6.9	6.3	0.14
Household rents (0=own)	0.12	0.13	0.15	0.547
Log per capita monthly income	6.82	6.82	6.88	0.804
Marathi mother tongue	0.49	0.51	0.52	0.909
Length of time in neighbourhood	18.5	19.65	18.78	0.426
Unsafe location nearby	0.11	0.08	0.1	0.322
Household belongs to major caste/religious group	0.59	0.68	0.6	0.093*
Neighbourhood variables				
Police station in neighbourhood	0.1	0.14	0.12	–
Chowk in neighbourhood	0.43	0.48	0.42	–
Hindu temple in neighbourhood	0.51	0.56	0.51	–
Mosque in neighbourhood	0.39	0.48	0.38	–
Market in neighbourhood	0.21	0.21	0.23	–
Orthogonality test: Joint significance of covariates on each character assignment	0.516	0.855	0.119	

3.11 Appendix B: Main Results

Table 3.11: Effect of riot on social capital

	(1) Organisation	(2) Trust	(3) Discussions	(4) Festival
At least 30% of neighbourhood witnessed a riot (d)	0.33*	-0.19	-0.16*	-0.093
	(0.18)	(0.22)	(0.098)	(0.12)
Respondent age and sex in 2012				
Age of respondent	-0.0024	-0.0029	-0.0080**	-0.0018
	(0.0035)	(0.0038)	(0.0032)	(0.0038)
Sex of respondent (1=Male) (d)	0.14	0.035	0.18*	0.10
	(0.13)	(0.10)	(0.096)	(0.097)
Lagged respondent and household variables (2010)				
Age of respondent	-0.0042	-0.00092	0.0015	-0.0019
	(0.0069)	(0.0058)	(0.0054)	(0.0049)
Sex of respondent (1=Male) (d)	-0.045	0.14	-0.12	0.036
	(0.14)	(0.12)	(0.11)	(0.090)
Permanent house materials (d)	-0.065	-0.17	0.028	0.26***
	(0.099)	(0.12)	(0.098)	(0.091)
Household is Muslim (d)	-0.24	0.54**	0.27	0.069
	(0.19)	(0.24)	(0.17)	(0.21)
Household size	0.013	0.012	-0.00078	-0.0051
	(0.019)	(0.019)	(0.013)	(0.015)
Household rents house (0=Owns) (d)	0.11	0.25*	-0.080	-0.13
	(0.18)	(0.14)	(0.12)	(0.10)
Log of monthly income per capita	-0.061	0.012	0.17**	0.12*
	(0.083)	(0.082)	(0.069)	(0.073)
Mother tongue is Marathi (d)	0.029	0.52***	0.25*	-0.047
	(0.15)	(0.17)	(0.13)	(0.16)
Months lived in current house	0.0052	0.0012	0.0027	-0.0020
	(0.0059)	(0.0057)	(0.0038)	(0.0037)
There is an unsafe location nearby (d)	0.063	-0.16	0.091	-0.066
	(0.19)	(0.22)	(0.15)	(0.15)
Hhd belongs to predominant religion/caste group (d)	-0.13	-0.086	0.14	0.13
	(0.12)	(0.12)	(0.094)	(0.12)
Lagged neighbourhood level variables (2010)				
Police station in neighbourhood (d)	0.061	0.0019	0.078	0.041

	(0.16)	(0.13)	(0.096)	(0.14)
Chowk in neighbourhood (d)	0.31	-0.28	0.13	0.086
	(0.22)	(0.17)	(0.10)	(0.14)
Hindu temple in neighbourhood (d)	-0.36	-0.038	0.057	0.098
	(0.27)	(0.22)	(0.13)	(0.22)
Mosque in neighbourhood (d)	0.041	-0.15	-0.21**	0.0060
	(0.15)	(0.15)	(0.10)	(0.19)
Market in neighbourhood (d)	-0.094	0.056	-0.024	0.0068
	(0.14)	(0.14)	(0.11)	(0.13)
Lagged neighbourhood level averages				
Average respondent age	-0.011	-0.054**	0.0082	-0.041*
	(0.029)	(0.027)	(0.021)	(0.021)
Percentage of male respondents	-0.13	-1.02	0.024	-0.46
	(0.97)	(0.76)	(0.57)	(0.74)
% of houses with permanent material	0.13	0.55	-0.39	-0.48
	(0.50)	(0.43)	(0.40)	(0.33)
% of Muslim households	-0.054	-0.77*	-0.39	0.11
	(0.60)	(0.42)	(0.38)	(0.50)
Average household size	-0.0059	0.026	0.017	-0.011
	(0.075)	(0.088)	(0.050)	(0.069)
% of hhds who are tenants	-0.76	-0.55	1.35*	-0.67
	(1.07)	(0.73)	(0.79)	(0.58)
Average monthly income per capita	-0.042	0.12	0.032	0.11
	(0.27)	(0.21)	(0.19)	(0.17)
% of Marathi speakers	0.17	-0.87*	-0.83**	-0.33
	(0.64)	(0.46)	(0.37)	(0.54)
Average length of stay	-0.013	0.020	-0.017	-0.0092
	(0.018)	(0.016)	(0.010)	(0.015)
% of hhds reporting an unsafe location	1.95***	1.13	-0.074	0.73
	(0.73)	(0.76)	(0.52)	(0.50)
Observations	845	845	845	845
Degrees of freedom	29.000	29.000	29.000	29.000
Chi-squared	559.545	95.008	114.856	249.479
Prob ¿ chi2	0.000	0.000	0.000	0.000
Number of clusters	45.000	45.000	45.000	45.000

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3.12: Effect of riot interacted with social diversity on social capital

	Organisation		Trust		Discussions		Festival	
	(1) Frac	(2) Pol	(3) Frac	(4) Pol	(5) Frac	(6) Pol	(7) Frac	(8) Pol
At least 30% of neighbourhood witnessed a riot	0.23	-5.70***	1.39**	1.96	0.59	-1.64	-0.33	-2.83**
	(0.95)	(1.74)	(0.70)	(1.85)	(0.43)	(1.21)	(0.49)	(1.39)
Caste group/Religious diversity	-0.70	-0.35	-0.044	-0.51	-0.28	-0.34	-0.71	-0.78
	(0.50)	(0.44)	(0.50)	(0.38)	(0.37)	(0.29)	(0.47)	(0.48)
More than %30 witnessed riot ×	0.028		-2.70**		-1.36*		0.25	
Caste group/Religious fractionalisation	(1.46)		(1.13)		(0.74)		(0.79)	
More than %30 witnessed riot ×		7.92***		-2.89		1.92		3.56*
Caste group/Religious polarisation		(2.31)		(2.50)		(1.63)		(1.83)
Respondent age and sex in 2012								
Age of respondent	-0.0023	-0.0023	-0.0033	-0.0028	-0.0082**	-0.0080**	-0.0017	-0.0017
	(0.0036)	(0.0039)	(0.0039)	(0.0038)	(0.0032)	(0.0032)	(0.0038)	(0.0038)
Sex of respondent (1=Male)	0.14	0.16	0.030	0.033	0.19*	0.19**	0.11	0.11
	(0.13)	(0.14)	(0.11)	(0.11)	(0.096)	(0.096)	(0.097)	(0.098)
Lagged respondent and household variables (2010)								
Age of respondent	-0.0041	-0.0043	-0.00100	-0.0013	0.0016	0.0014	-0.0021	-0.0022
	(0.0069)	(0.0071)	(0.0058)	(0.0058)	(0.0054)	(0.0054)	(0.0049)	(0.0049)
Sex of respondent (1=Male)	-0.053	-0.069	0.14	0.13	-0.13	-0.13	0.027	0.020
	(0.13)	(0.14)	(0.13)	(0.12)	(0.11)	(0.11)	(0.091)	(0.089)
Permanent house materials	-0.065	-0.065	-0.18	-0.17	0.029	0.028	0.26***	0.27***
	(0.099)	(0.10)	(0.12)	(0.12)	(0.098)	(0.098)	(0.092)	(0.092)
Household is Muslim	-0.23	-0.23	0.56**	0.55**	0.28	0.28	0.087	0.081
	(0.19)	(0.20)	(0.25)	(0.25)	(0.17)	(0.17)	(0.21)	(0.21)
Household size	0.013	0.013	0.011	0.011	-0.00093	-0.00098	-0.0055	-0.0056
	(0.019)	(0.019)	(0.019)	(0.019)	(0.013)	(0.013)	(0.015)	(0.015)
Household rents house (0=Owns)	0.11	0.11	0.25*	0.26*	-0.081	-0.078	-0.12	-0.12
	(0.18)	(0.18)	(0.14)	(0.14)	(0.12)	(0.12)	(0.10)	(0.10)

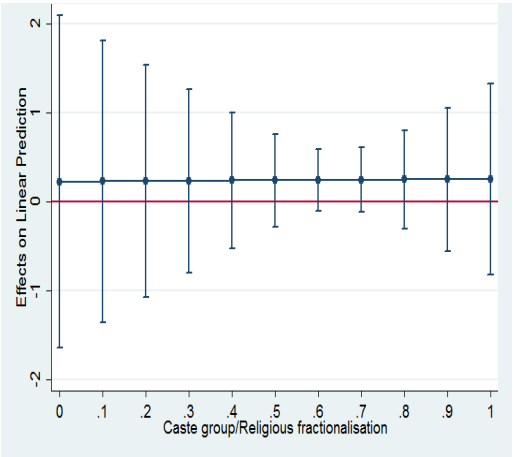
Log of monthly income per capita	-0.062	-0.064	0.015	0.011	0.17**	0.17**	0.12*	0.12*
	(0.084)	(0.085)	(0.083)	(0.082)	(0.069)	(0.069)	(0.073)	(0.073)
Mother tongue is Marathi	0.037	0.041	0.53***	0.53***	0.25*	0.25*	-0.042	-0.045
	(0.15)	(0.15)	(0.18)	(0.18)	(0.13)	(0.13)	(0.16)	(0.16)
Months lived in current house	0.0052	0.0055	0.0015	0.0014	0.0028	0.0027	-0.0018	-0.0017
	(0.0058)	(0.0060)	(0.0057)	(0.0056)	(0.0038)	(0.0038)	(0.0037)	(0.0037)
There is an unsafe location nearby	0.063	0.066	-0.17	-0.16	0.089	0.089	-0.068	-0.069
	(0.19)	(0.19)	(0.23)	(0.22)	(0.15)	(0.15)	(0.15)	(0.15)
Hhd belongs to predominant	-0.16	-0.13	-0.098	-0.11	0.12	0.13	0.097	0.11
religion/caste group	(0.13)	(0.13)	(0.12)	(0.12)	(0.10)	(0.096)	(0.12)	(0.12)
Lagged neighbourhood level variables (2010)								
Police station in neighbourhood	0.074	0.0015	0.14	-0.031	0.16	0.041	0.039	-0.038
	(0.14)	(0.15)	(0.17)	(0.14)	(0.13)	(0.093)	(0.15)	(0.14)
Chowk in neighbourhood	0.29	0.45***	-0.44***	-0.28*	0.036	0.19	0.070	0.20
	(0.24)	(0.16)	(0.16)	(0.16)	(0.11)	(0.12)	(0.17)	(0.14)
Hindu temple in neighbourhood	-0.35	-0.33	0.060	-0.059	0.14	0.047	0.11	0.081
	(0.28)	(0.20)	(0.22)	(0.21)	(0.14)	(0.12)	(0.23)	(0.20)
Mosque in neighbourhood	0.073	-0.0057	-0.18	-0.11	-0.24**	-0.20**	0.043	0.023
	(0.14)	(0.11)	(0.15)	(0.15)	(0.12)	(0.093)	(0.18)	(0.18)
Market in neighbourhood	-0.072	-0.24	0.19	0.11	0.041	-0.050	0.015	-0.052
	(0.15)	(0.17)	(0.15)	(0.15)	(0.11)	(0.12)	(0.14)	(0.13)
Lagged neighbourhood means of covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	845	845	845	845	845	845	845	845
Degrees of freedom	31.000	31.000	31.000	31.000	31.000	31.000	31.000	31.000
Chi-squared	580.988	663.213	172.863	99.758	314.911	170.976	180.607	352.886
Prob ¿ chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Number of clusters	45.000	45.000	45.000	45.000	45.000	45.000	45.000	45.000

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Impact effects of riots on social capital conditional caste/religious group fractionalisation and polarisation (with 95% CI)

Figure 3.4: Belonging to an organisation

(a) Fractionalisation



(b) Polarisation

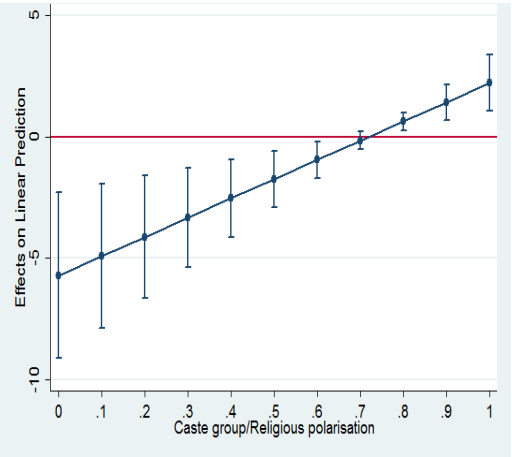
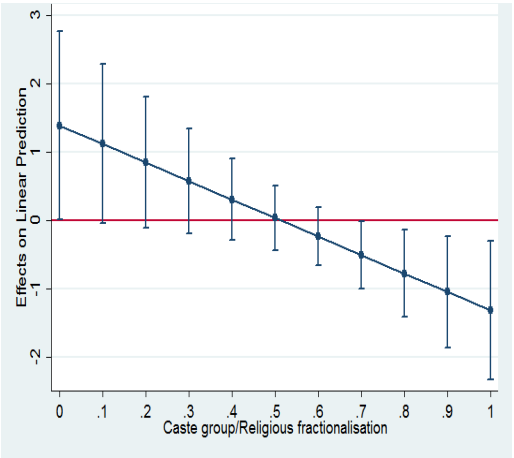


Figure 3.5: Trust in neighbours

(a) Fractionalisation



(b) Polarisation

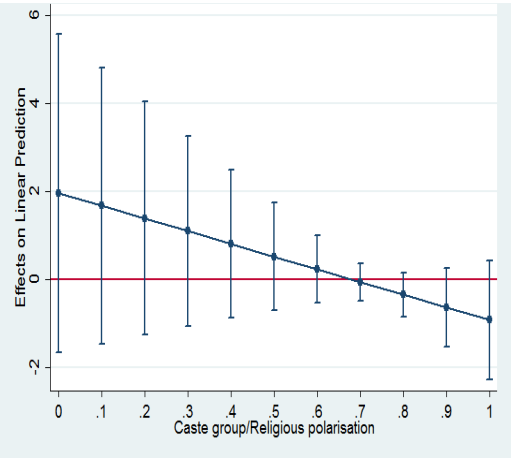
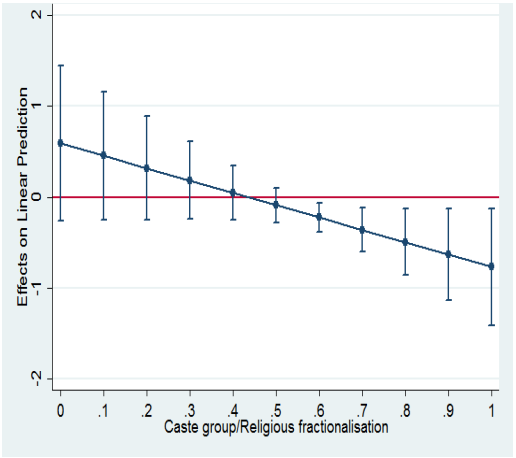


Figure 3.6: Participates in community discussions

(a) Fractionalisation



(b) Polarisation

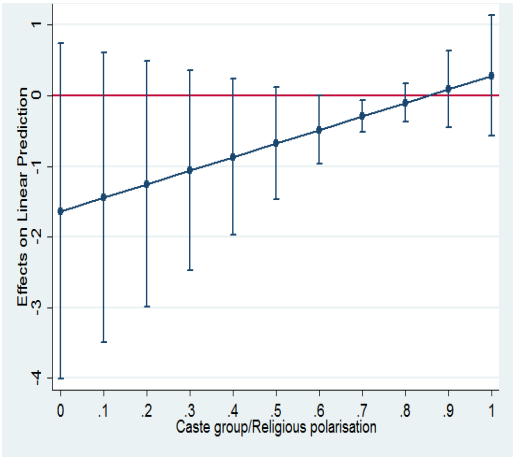
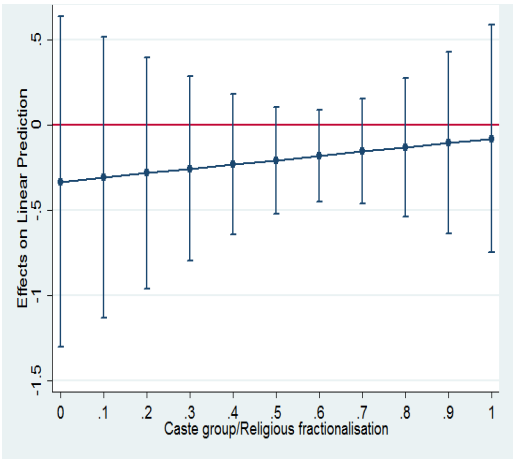


Figure 3.7: Participates in festival preparation

(a) Fractionalisation



(b) Polarisation

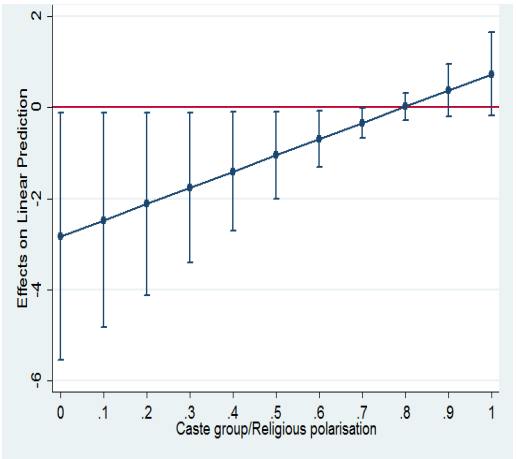


Table 3.13: Effect of riot on social capital separating by those who belong to majority and minority

	Organisation		Trust		Discussions		Festival	
	(1) Majority	(2) Minority	(3) Majority	(4) Minority	(5) Majority	(6) Minority	(7) Majority	(8) Minority
At least 30% of neighbourhood witnessed a riot	0.34	0.20	-0.12	-0.58*	-0.099	-0.30	-0.27	0.092
	(0.26)	(0.28)	(0.27)	(0.33)	(0.17)	(0.33)	(0.17)	(0.23)
Respondent age and sex in 2012								
Age of respondent	-0.0014	-0.0046	-0.0046	-0.0018	-0.0095**	-0.0069	-0.0021	0.00030
	(0.0051)	(0.0065)	(0.0051)	(0.0077)	(0.0037)	(0.0065)	(0.0049)	(0.0059)
Sex of respondent (1=Male)	0.33**	0.020	0.19	-0.31	0.20**	0.094	0.31**	-0.22
	(0.15)	(0.21)	(0.13)	(0.21)	(0.10)	(0.23)	(0.13)	(0.16)
Lagged respondent and household variables (2010)								
Age of respondent	-0.016*	0.0080	-0.00043	-0.0028	0.0016	0.0011	-0.0080	0.0026
	(0.0084)	(0.012)	(0.0069)	(0.011)	(0.0060)	(0.0095)	(0.0073)	(0.0090)
Sex of respondent (1=Male)	-0.29*	0.100	0.23	-0.16	-0.027	-0.48**	-0.0017	0.11
	(0.17)	(0.22)	(0.17)	(0.25)	(0.15)	(0.20)	(0.13)	(0.15)
Permanent house materials	-0.11	-0.14	-0.19	-0.23	-0.15	0.48**	0.21	0.46***
	(0.13)	(0.19)	(0.15)	(0.21)	(0.11)	(0.19)	(0.13)	(0.16)
Household is Muslim	-1.13***	0.060	0.62	0.89**	0.13	0.55*	-0.43	0.27
	(0.40)	(0.31)	(0.41)	(0.44)	(0.29)	(0.29)	(0.42)	(0.28)
Household size	0.016	-0.00093	0.033	-0.11***	0.027*	-0.11***	-0.0094	-0.0060
	(0.023)	(0.030)	(0.023)	(0.034)	(0.016)	(0.041)	(0.018)	(0.030)
Household rents house (0=Owns)	0.39	-0.16	0.35*	0.19	-0.017	-0.32	0.043	-0.50**
	(0.24)	(0.30)	(0.21)	(0.33)	(0.16)	(0.35)	(0.15)	(0.22)
Log of monthly income per capita	-0.31*	0.16	-0.15	0.17	0.15*	0.18	0.087	0.097

	(0.17)	(0.11)	(0.10)	(0.16)	(0.092)	(0.14)	(0.12)	(0.13)
Mother tongue is Marathi	-0.14	0.017	0.49*	0.66**	0.18	0.26	-0.20	0.10
	(0.22)	(0.19)	(0.26)	(0.30)	(0.22)	(0.32)	(0.29)	(0.24)
Months lived in current house	0.011	-0.0031	0.0039	0.0056	0.0032	0.0021	0.0042	-0.015**
	(0.0070)	(0.0086)	(0.0063)	(0.010)	(0.0047)	(0.0070)	(0.0048)	(0.0077)
There is an unsafe location nearby	-0.012	0.29	0.0075	-0.24	-0.013	0.46	-0.25	0.15
	(0.30)	(0.32)	(0.27)	(0.40)	(0.19)	(0.30)	(0.23)	(0.23)
Lagged neighbourhood level variables (2010)								
Police station in neighbourhood	-0.14	0.067	-0.35	0.75***	0.072	-0.065	0.045	-0.076
	(0.19)	(0.29)	(0.24)	(0.28)	(0.11)	(0.29)	(0.22)	(0.28)
Chowk in neighbourhood	0.29	0.49*	-0.19	-0.36*	-0.059	0.66***	-0.21	0.52*
	(0.33)	(0.28)	(0.22)	(0.21)	(0.13)	(0.22)	(0.18)	(0.27)
Hindu temple in neighbourhood	-0.56	-0.077	-0.29	0.18	0.40**	-0.51**	0.70**	-0.84**
	(0.41)	(0.30)	(0.36)	(0.27)	(0.17)	(0.25)	(0.35)	(0.35)
Mosque in neighbourhood	0.42*	-0.53*	0.33	-0.72***	-0.40***	0.042	-0.20	0.33
	(0.22)	(0.27)	(0.30)	(0.24)	(0.11)	(0.38)	(0.28)	(0.30)
Market in neighbourhood	-0.24	-0.16	-0.081	-0.16	-0.040	0.056	-0.068	0.19
	(0.15)	(0.35)	(0.22)	(0.27)	(0.11)	(0.35)	(0.17)	(0.27)
Lagged neighbourhood means of covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	526	319	526	319	526	319	526	319
Degrees of freedom	28.000	28.000	28.000	28.000	28.000	28.000	28.000	28.000
Chi-squared	812.247	101.886	86.951	978.245	218.956	224.885	200.920	120.254
Prob ¿ chi2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Number of clusters	44.000	42.000	44.000	42.000	44.000	42.000	44.000	42.000

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3.14: Dependent Variable: Willingness to give

	(1) Riot	(2) Riot × Match
At least 30% of neighbourhood witnessed a riot		-0.00057
		(0.15)
More than %30 witnessed riot × No shared identity		-0.25
		(0.24)
Shared identity with vignette character	0.24**	0.28**
	(0.12)	(0.14)
Assigned *Hanif* as character	-0.18	-0.19
	(0.12)	(0.12)
Assigned *Deshpande* as character	-0.083	-0.095
	(0.10)	(0.100)
Respondent age and sex in 2012		
Age of respondent	0.0050	0.0050
	(0.0038)	(0.0039)
Sex of respondent (1=Male)	0.14	0.14
	(0.11)	(0.11)
Lagged respondent and household variables (2010)		
Age of respondent	-0.0058	-0.0058
	(0.0055)	(0.0055)
Sex of respondent (1=Male)	-0.15*	-0.15*
	(0.091)	(0.090)
Permanent house materials	0.0095	0.0091
	(0.081)	(0.081)
Household is Muslim	0.36**	0.36**
	(0.16)	(0.16)
Household size	0.0079	0.0084
	(0.016)	(0.016)
Household rents house (0=Owns)	-0.070	-0.076
	(0.15)	(0.15)
Log of monthly income per capita	0.13*	0.13*
	(0.075)	(0.075)
Mother tongue is Marathi	0.26	0.26
	(0.17)	(0.17)
Months lived in current house	-0.0015	-0.0016
	(0.0041)	(0.0041)
There is an unsafe location nearby	0.15	0.15
	(0.17)	(0.17)
Hhd belongs to predominant religion/caste group	0.071	0.073
	(0.11)	(0.11)
Lagged neighbourhood level variables (2010)		

Police station in neighbourhood	0.18	0.19*
	(0.11)	(0.12)
Chowk in neighbourhood	-0.052	-0.080
	(0.12)	(0.13)
Hindu temple in neighbourhood	0.25	0.28*
	(0.16)	(0.17)
Mosque in neighbourhood	-0.36***	-0.36***
	(0.12)	(0.13)
Market in neighbourhood	0.16	0.15
	(0.14)	(0.14)
Lagged neighbourhood means of covariates	Yes	Yes
Observations	844	844
Degrees of freedom	31.000	33.000
Chi-squared	166.910	301.859
Prob ¿ chi2	0.000	0.000
Number of clusters	45.000	45.000

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 3.8: Conditional impact effect of match on willingness to give

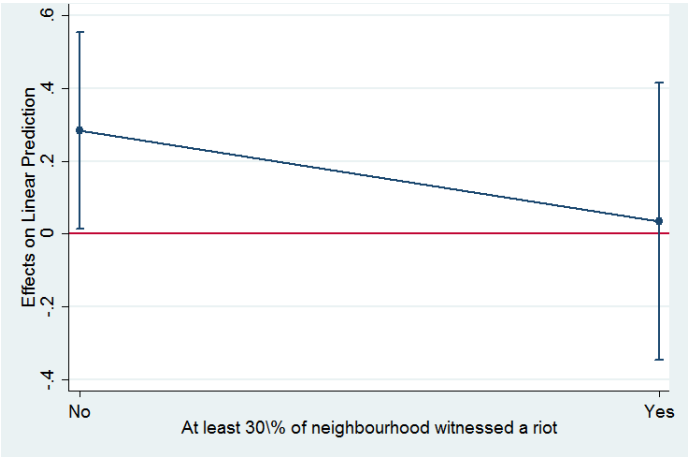


Table 3.15: Effect of riot interacted with out–migration on social capital

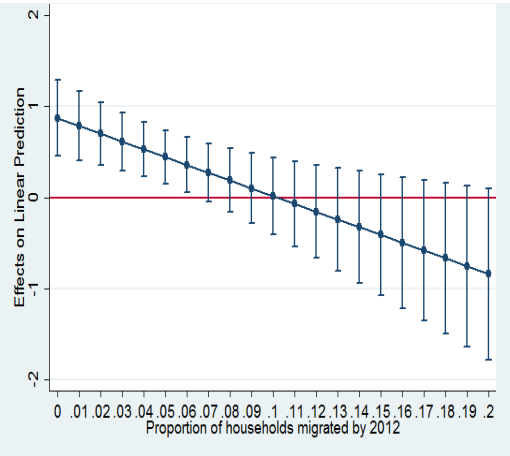
	(1) Organisation	(2) Trust	(3) Discussions	(4) Festival
More than %30 witnessed riot	0.86***	-0.78***	-0.38**	-0.33*
	(0.21)	(0.23)	(0.15)	(0.18)
Proportion of households migrated by 2012	1.24	2.44***	-0.50	0.28
	(0.99)	(0.89)	(0.77)	(0.70)
More than %30 witnessed riot × Proportion of households migrated by 2012	-7.91***	10.7***	3.02	4.00
	(2.96)	(2.42)	(1.91)	(2.55)
Respondent age and sex in 2012				
Age of respondent	-0.0024	-0.0023	-0.0080**	-0.0018
	(0.0036)	(0.0040)	(0.0032)	(0.0038)
Sex of respondent (1=Male)	0.16	0.0036	0.18*	0.095
	(0.13)	(0.10)	(0.096)	(0.097)
Lagged respondent and household variables (2010)				
Age of respondent	-0.0048	-0.0021	0.0016	-0.0018
	(0.0070)	(0.0059)	(0.0054)	(0.0049)
Sex of respondent (1=Male)	-0.051	0.15	-0.12	0.040
	(0.14)	(0.11)	(0.11)	(0.091)
Permanent house materials	-0.066	-0.18	0.030	0.26***
	(0.100)	(0.12)	(0.098)	(0.092)
Household is Muslim	-0.24	0.55**	0.27	0.067
	(0.20)	(0.24)	(0.18)	(0.21)
Household size	0.012	0.010	-0.00084	-0.0052
	(0.019)	(0.020)	(0.013)	(0.015)
Household rents house (0=Owns)	0.12	0.27*	-0.080	-0.12
	(0.18)	(0.15)	(0.12)	(0.10)
Log of monthly income per capita	-0.057	0.013	0.17**	0.12*
	(0.084)	(0.084)	(0.069)	(0.073)

Mother tongue is Marathi	0.030	0.54***	0.25*	-0.050
	(0.15)	(0.18)	(0.13)	(0.16)
Months lived in current house	0.0055	0.0015	0.0027	-0.0021
	(0.0060)	(0.0057)	(0.0038)	(0.0037)
There is an unsafe location nearby	0.059	-0.18	0.094	-0.070
	(0.19)	(0.23)	(0.15)	(0.15)
Hhd belongs to predominant	-0.12	-0.091	0.14	0.13
religion/caste group	(0.13)	(0.12)	(0.095)	(0.12)
Lagged neighbourhood level variables (2010)				
Police station in neighbourhood	0.066	-0.059	0.075	0.018
	(0.15)	(0.098)	(0.091)	(0.13)
Chowk in neighbourhood	0.37*	-0.31**	0.10	0.061
	(0.20)	(0.13)	(0.11)	(0.15)
Hindu temple in neighbourhood	-0.45*	0.0051	0.10	0.14
	(0.25)	(0.16)	(0.13)	(0.22)
Mosque in neighbourhood	0.16	-0.35***	-0.26**	-0.086
	(0.14)	(0.12)	(0.11)	(0.21)
Market in neighbourhood	-0.091	-0.055	-0.022	-0.017
	(0.14)	(0.11)	(0.11)	(0.12)
Lagged neighbourhood means of covariates	Yes	Yes	Yes	Yes
Observations	845	845	845	845
Degrees of freedom	31.000	31.000	31.000	31.000
Chi-squared	277.710	299.227	170.745	166.509
Prob ¿ chi2	0.000	0.000	0.000	0.000
Number of clusters	45.000	45.000	45.000	45.000

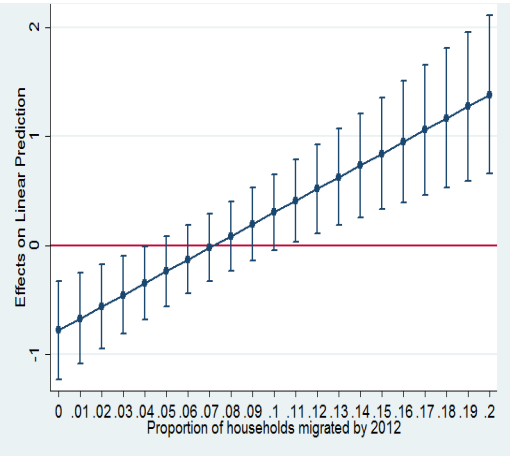
Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 3.9: Impact effects of riots on social capital conditional on out–migration (with 95% CI)

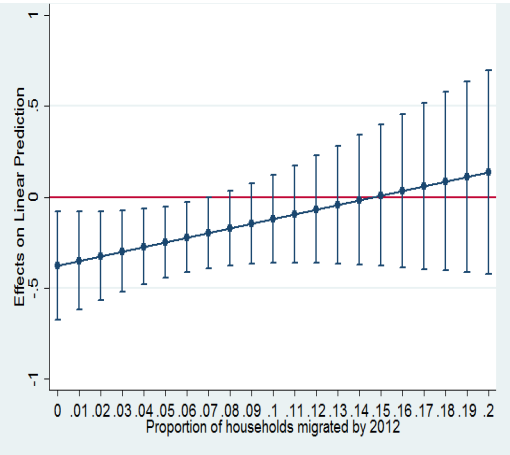
(a) Belonging to an organisation



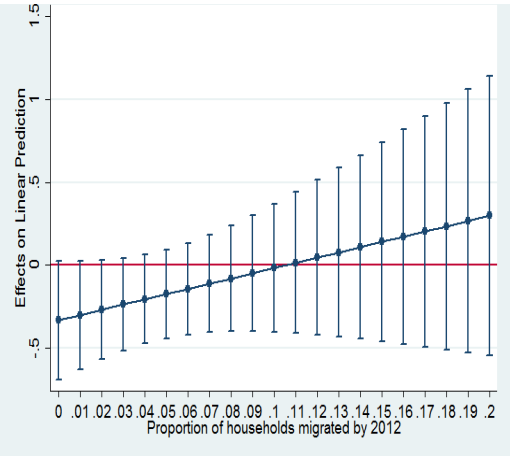
(b) Trust in neighbours



(c) Participates in community discussions



(d) Participates in festival preparation



3.12 Appendix C: Robustness Checks

Table 3.16: Heckman first stage: Probit model

	(1) Selection into second wave
Afraid of going to nearest town out of fear of being mugged, attacked or abducted	0.092 (0.10)
Afraid of going within current area out of fear of being mugged, attacked or abducted	-0.046 (0.12)
Poor/unreliable amenities provision in neighbourhood	-0.12 (0.19)
No police station in area	0.038 (0.28)
Respondent would like to move out of area	-0.35*** (0.13)
Feel female members are safe at day	0.14

	(0.20)
Feel female members are safe at day	0.045
	(0.11)
Constant	4.37**
	(1.80)
Respondent and Household controls	Yes
Neighbourhood controls	Yes
Lagged neighbourhood means of covariates	Yes
Observations	1063
Degrees of freedom	34.000
Chi-squared	228.331
Prob ¿ chi2	0.000
Number of clusters	

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3.17: Heckman second stage: Effect of riot on social capital

	(1) Organisation	(2) Trust	(3) Discussions	(4) Festival
At least 30% of neighbourhood witnessed a riot (d)	0.33*	-0.20	-0.16*	-0.093
	(0.18)	(0.22)	(0.099)	(0.12)
Inverse Mills Ratio	-0.20	0.83	-0.32	0.16
	(0.60)	(0.53)	(0.41)	(0.57)
Respondent and Household controls	Yes	Yes	Yes	Yes
Neighbourhood controls and means	Yes	Yes	Yes	Yes
Observations	845	845	845	845
Degrees of freedom	30.000	30.000	30.000	30.000
Chi-squared	628.119	94.428	123.365	258.139
Prob ¿ chi2	0.000	0.000	0.000	0.000
Number of clusters	45.000	45.000	45.000	45.000

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

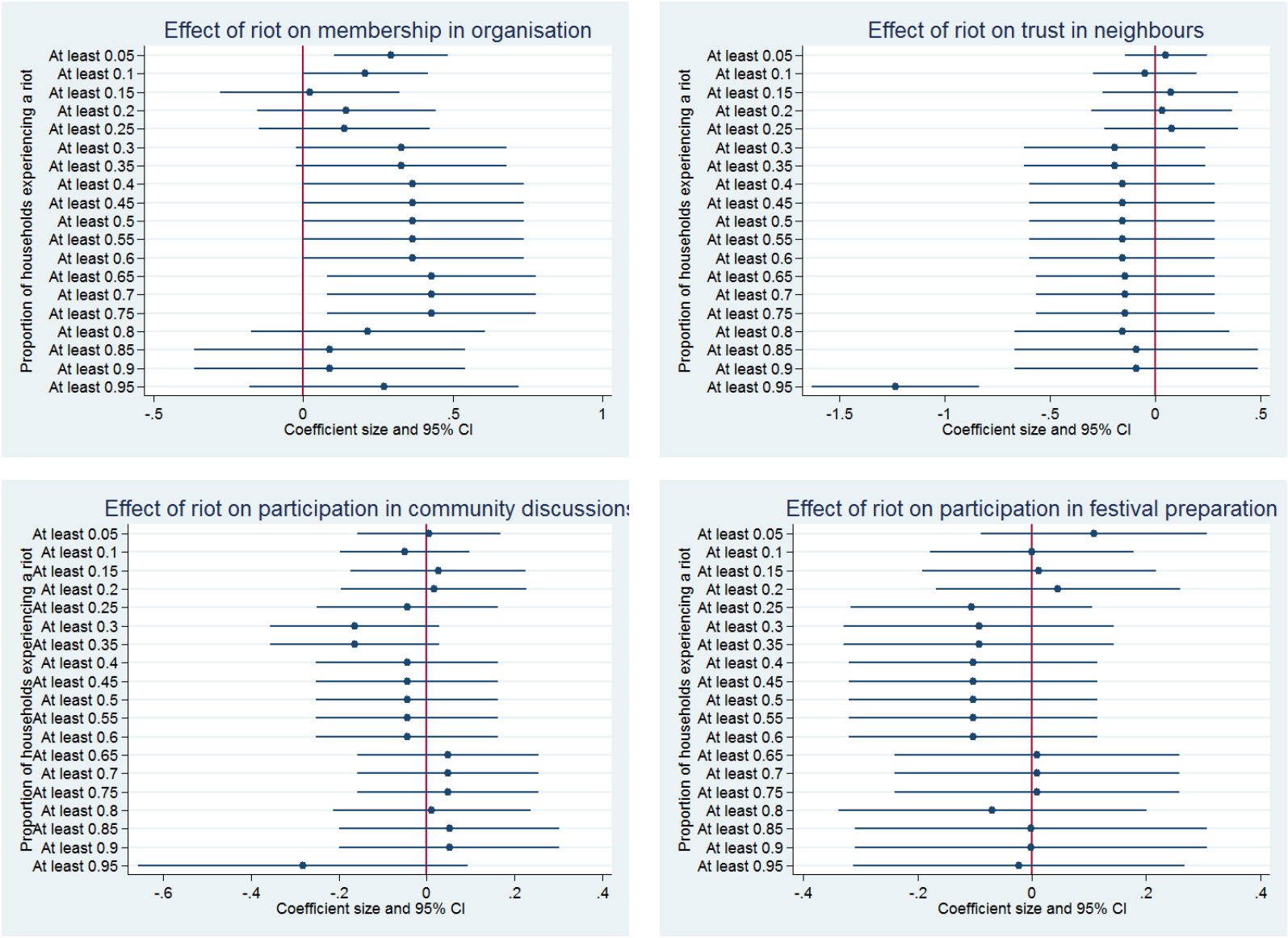
Table 3.18: Robustness checks: Different measures of social diversity

	Organisation		**Trust**		**Discussions**		**Festival**	
	Frac	Pol	Frac	Pol	Frac	Pol	Frac	Pol
Main results (Caste group/Religious diversity)								
At least 30% of neighbourhood witnessed a riot	0.23	-5.7^{***}	1.39^{**}	1.96	0.59	-1.64	-0.33	-2.83^{**}
	(0.95)	(1.74)	(0.70)	(1.85)	(0.43)	(1.21)	(0.49)	(1.39)
Caste group/Religious diversity	-0.70	-0.35	-0.044	-0.51	-0.28	-0.34	-0.71	-0.78
	(0.50)	(0.44)	(0.50)	(0.38)	(0.37)	(0.29)	(0.47)	(0.48)
At least 30% witnessed riot × Caste group/Religious diversity	0.03	7.92^{***}	-2.70^{**}	-2.89	-1.36^{*}	1.92	0.25	3.46^{*}
	(1.46)	(2.31)	(1.13)	(2.50)	(0.74)	(1.63)	(0.79)	(1.83)
Religious diversity								
At least 30% of neighbourhood witnessed a riot	-0.99^{*}	-1.25^{***}	0.5	0.56	-0.22	-0.29	-0.68^{*}	-0.64^{*}
	(0.52)	(0.42)	(0.4)	(0.39)	(0.28)	(0.27)	(0.39)	(0.37)
Religious diversity	-1.44^{***}	-0.99^{***}	0.24	0.09	-0.2	-0.14	-1.14	-0.65^{**}
	(0.46)	(0.23)	0.37	(0.21)	(0.31)	(0.16)	(0.49)	(0.18)
At least 30% witnessed riot × Religious diversity	3.55^{***}	2.33^{***}	-2.27^{**}	-1.3^{**}	0.04	0.16	1.19	0.67
	(1.34)	(0.59)	(1.06)	(0.52)	(0.81)	(0.42)	(0.95)	(0.51)
Caste group diversity								
At least 30% of neighbourhood witnessed a riot	2.36^{**}	-1.09	3.01^{**}	-4.8^{*}	1.99^{***}	-3.1^{***}	0.54	-2.72^{**}
	(1.06)	(2.41)	(1.53)	(2.56)	(0.55)	(0.93)	(0.96)	(1.27)
Caste group diversity	-0.11	0.68	0.61	0.34	-0.11	0.09	-0.14	0.89^{*}
	(0.59)	(0.86)	(0.52)	(0.71)	(0.37)	(0.43)	(0.42)	(0.47)
At least 30% witnessed riot × Caste group diversity	-3.32^{*}	1.69	-5.21^{**}	5.57^{*}	-3.48^{***}	3.55^{***}	-1.03	3.17^{**}
	(1.72)	(2.94)	(2.55)	(3.01)	(0.89)	(1.17)	(1.49)	(1.58)
***Jati* diversity**								
At least 30% of neighbourhood witnessed a riot	3.32	-0.27	3.29	-1.43^{**}	2.47^{**}	-0.95^{***}	1.39	-0.36
	(2.09)	(0.56)	(2.03)	(0.66)	(1.21)	(0.35)	(1.11)	(0.35)
Jati diversity	0.21	0.03	-0.39	-0.18	0.07	-0.09	-0.27	0.24
	(1.04)	(0.64)	(0.96)	(0.59)	(0.82)	(0.49)	(0.81)	(0.55)
At least 30% witnessed riot × *Jati* diversity	-3.5	1.36	-4.05^{*}	2.81^{**}	1.72	1.77^{***}	3.08^{**}	0.64
	(2.4)	(1.27)	(2.39)	(1.37)	(1.45)	(0.68)	(1.33)	(0.67)

Standard errors in parentheses

$*p < 0.1$, $**p < 0.05$, $***p < 0.01$

Figure 3.10: Using different cut–offs for neighbourhood level riots



Chapter 4

Making and breaking social capital

The effect of displacement and return

Abstract

This chapter studies the effect of returning home after conflict induced displacement on social capital, compared to remaining displaced. I have collected a household survey of displaced Palestinians from a refugee camp in Lebanon, and this chapter assesses the impact of return on the different dimensions of social capital based on a diverse and rich set of questions. An instrumental variable is used to model the return decision in one part of the camp, and the exogenous nature of return is exploited in another section of the camp. Results show that return can improve social capital if households return within one year of the war ending and with their friends and family. If households have been displaced for too long, then social capital is decreased upon returning home. This indicates that social capital is not simply carried over from displacement to return, but is rebuilt in a process that takes time and effort.

We were leading a happy life, despite the difficulties of being refugees, because we were living amidst our relatives, friends and neighbours and they helped us to face any problems. But now we miss our life among our friends. We miss the good old days and we miss the large family circle.

Samira Loubani, displaced Palestinian from Nahr el–Bared refugee camp[1]

[1]Taken from an UNRWA (United Nations Relief and Works Agency for Palestine Refugees in the Near East) emergency appeal progress report on the reconstruction of Nahr el–Bared camp (UNRWA, 2008b).

4.1 Introduction

Wars, conflicts and natural disasters have produced an estimated 50 million refugees, internally displaced persons (IDPs) and stateless persons around the world (UNHCR, 2014). More often than not, this has resulted in a 'refugee crisis', since host countries and communities struggle to find the resources to care for refugees or the political motivation to allow them to settle. While the UNHCR seeks a 'lasting and durable solution', the return of refugees and IDPs is promoted by the hosts without fully considering the consequences. Some evidence has shown that returnees have difficulty readjusting to the life that they have left, finding that economic, social, cultural and political conditions have changed (Kibreab, 2002). In many cases refugees and IDPs do not want to return home (Deininger et al., 2004), because they fear for their safety, and also find that 'home' has become a foreign place after years of displacement. Before promoting return, many questions on the consequences of returning should be answered in a rigorous and empirical fashion. This chapter aims to address this issue by exploring the effect of returning home after conflict induced displacement on social capital.

Social capital — the networks of relatives, friends and neighbours and the trust, co–dependency and cooperation that results from these relationships (Portes, 1998) — is a necessary factor for economic development, especially when formal institutions are weak (Grootaert and van Bastelaer, 2002). Conflict can alter the social fabric of the communities involved (Colletta and Cullen, 2000), and understanding how social capital changes with the return of displaced populations is crucial. So far the creation of social capital is not well understood, mostly because it is correlated with a large range of environmental, political, economic and demographic factors. What happens to social capital after return from conflict induced displacement is even less clear, despite the fact that a peaceful and cooperative society is a primary concern in post–conflict settings (Varshney, 2001). This chapter addresses a major gap in the literature by identifying an exogenous return effect on different dimensions of social capital drawn from a large number of indicators, namely trust, bonding social capital, non–institutional social capital and 'weak' social capital. Theoretically, social capital can be destroyed during the displacement phase because of large geographical distances, but restored upon return. It could be maintained throughout the displacement and return process because IDPs rely on their networks for support. New social capital could be formed during displacement, and returnees might have to start this process all over again upon return. These are all plausible hypotheses that empirical research should address, but the current state of the art has no answers.

This research presents a major contribution to the literature in that it utilises the first dataset that contains a representative sample of both the displaced and those that have returned home. In order to estimate a causal return effect, I exploit the nature of the return process of Palestinian households from Nahr el–Bared camp (NBC) in North Lebanon. In 2007, a war broke out in NBC which lasted for 3 months. All residents of the camp were evacuated to nearby areas in the first few days of the war while the Lebanese army conducted an aerial bombardment operation to wipe out Fatah al–Islam militia fighters

who were hiding in the camp. The aerial bombardment completely destroyed all buildings and homes in one of two sections of the camp (section A), but the damage in the second section B was sporadic and superficial. Households from section B were able to return home soon after the war ended, if their houses were rebuilt or undamaged. However, section A was completely destroyed during the war, so in the aftermath this section was cordoned off from the public and divided into eight geographical plots so that it could be rebuilt. Once funding from international donors was received for each plot, reconstruction took place and households were allowed to return home.

Because the decision of returning could be correlated with household characteristics, the damage levels are used as an instrumental variable to model the return decision in section B. The aerial bombardment occurred after households were evacuated, and it is difficult to conceive that dwellings were targeted based on any of the households' characteristics. Rather, I argue that the bombing in section B was a random spill–over from the main operation. In section A we have a cleaner natural experiment, and I use the fact that the return decision was out of the hands of the household to provide a plausibly exogenous return effect.

The current gap in the literature is due to a lack of available data — displaced households are by nature difficult to locate and there is a potential selection bias involved when dealing with displacement and subsequent return (Deininger et al., 2004). Some studies have tried to find a way around this challenge, by comparing returnees with 'stayers', or those who were never displaced to begin with. Fiala (2015) and Verwimp and Muñoz Mora (2013) have found that returnees lag behind stayers in terms of calorie intake, poverty and household welfare. In contrast, Kondylis (2008) finds that returnees actually outperform stayers in agricultural productivity, but this could be a short term impact of returnees trying to catch up. By comparing households who have been displaced to stayers, the impact of return is not isolated, but confounded with the displacement effect. In order to better evaluate the return policy, returnees should be compared to those who are still displaced, rather than those who were never displaced in the first place. Bozzoli et al. (2011) are able to avoid this confounding effect, and find that returnees, compared to IDPs, are less likely to work in trading and more likely to make handicrafts and participate in a wider range of activities. However, their empirical strategy relies on the household head's experience of conflict, another factor which has been confounded with the return effect.

This chapter vastly improves on current datasets and identification strategies, which have until now confounded the return effect with displacement or experience of conflict. Because the residents of NBC were originally registered with a UN agency, it was relatively easy to track down households who were displaced around the country (the details of the data collection are explained in section 4.4). In addition, as the movement of Palestinians in Lebanon is restricted to within the country (as was their displacement), I am certain of capturing a representative sample of households living in NBC prior to the war, a major achievement and unique contribution to the conflict and displacement literature, which has thus far been unable to collect data on difficult to reach populations such as the displaced.

Because of this, the literature has so far confounded the displacement and return effect. However, this chapter provides an isolated and causal estimate of the effect of return, a critical piece of information for both the displaced and relevant policy makers when considering the option of returning home. I am also able to causally identify the impact of return, by exploiting the exogenous return process in section A and an instrumental variable (the damage level of the original dwelling) in section B of NBC.

The main results show that there are two effects on social capital. Section A returnees have lower average social capital compared to the displaced (particularly lower bonding, non–institutional and weak social capital), but section B returnees have higher non–institutional social capital compared to the displaced. These results are robust to various specifications. Further analysis indicates that the positive effect of return is felt most for those who return home early with friends and family, but as time passes return will decrease social capital compared to the displaced. Logistical concerns and challenges that arise upon immediate return do not make social capital a priority, and building or restoring social capital takes time. Returnees in section A have only returned within the last year, however section B returnees had returned, on average, 5 years earlier. This implies that the creation of social capital is a slow process, and is not simply 'carried over' during displacement and return. But despite starting from scratch, IDPs show resilience in the face of losing their social capital, rebuilding it during displacement and once again upon return.

This chapter contributes to the literature in four ways. Firstly, I study a consequence of returning home that has not been previously evaluated in a rigorous and scientific manner: the effect of return on social capital. Secondly, this chapter improves on previous strategies used to identify the consequences of returning home after conflict induced displacement by a) utilising a unique dataset that is representative of all households prior to the displacement and b) causally estimating the impact of return through the exogenous nature of the return process. Thirdly, I contribute to the literature on the formation of social capital, which has thus far been unable to explain how social capital is formed over time (Axelrod and Hamilton, 1981; Bowles and Gintis, 2011; Gambetta, 1988; Alesina and La Ferrara, 2002; Glaeser et al., 2002).

Lastly I contribute to the emerging literature that explores the relationship between social capital and conflict. On the one hand this literature has found that conflict can destroy the social fabric (Colletta and Cullen, 2000), decrease civic association (De Luca and Verpoorten, 2011) and create mistrust (De Luca and Verpoorten, 2011; Rohner et al., 2013; Cassar et al., 2013). On the other hand, older children exposed to conflict behave in more egalitarian ways (Michal et al., 2011), individuals exposed to civil conflict have higher civic association (Bellows and Miguel, 2009; Blattman, 2009), are more altruistic (Voors et al., 2012) and display more pro–social behaviour (Gilligan et al., 2014). A distinguishing feature of this chapter is that it unpacks social capital into different dimensions based on a diverse and rich range of social capital indicators. In addition, I explore various potential mechanisms that could explain how social capital changes, particularly how it is built up

over time and depends on others in the social environment. In these two ways this chapter provides much needed insight into the complexity of the relationship between social capital and conflict, lending evidence to an exciting debate.

The next section explains the conceptual framework behind social capital. Section 4.3 describes the context, then section 4.4 explains how the data was collected, and in particular how social capital is measured. Section 4.5 outlines the identification strategy and 4.6 the subsequent results. In section 4.7, I show how timing of return drives the two opposite effects of return. Section 4.8 provides robustness checks for the main results, and section 4.9 concludes.

4.2 Conceptual Framework

There is a current consensus that social capital refers to social networks and relationships, and the social outcomes that result from these resources, such as trust, cooperation, and dependency (Portes, 1998). A body of empirical literature suggests several advantages to a more cooperative society and better socialised individuals: public goods, institutions and community–level investments are more effective (Habyarimana, 2009), the tragedy of the commons is avoided (Ostrom et al., 1999), public institutions and public policies are more productive (Putnam et al., 1994a), growth rates increase (Fukuyama, 1996; Knack and Keefer, 1997), human productivity is higher (Dasgupta and Serageldin, 2002), household welfare improves (Narayan and Pritchett, 1999; Maluccio et al., 2000), high school drop outs decrease (Coleman, 1988), and financial investments and networks increase (Harker et al., 1990). Related to the subject of this chapter, properly developed social capital that brings together different communities is essential for lasting peace in post–conflict settings (Varshney, 2001) and a reduction in violent crime (Lederman et al., 2002).

Although the importance of social capital is not in dispute, its definition has been contested. This is mainly due to vagueness over whether social capital refers to the actual resources, i.e. the social networks and relationships, or the results of these relationships (which can serve as resources in themselves), i.e. trust, cooperation and dependence (Portes, 1998). For this reason, and following from recent work on social capital, this chapter adopts a multi–faceted approach (Dasgupta and Serageldin, 2002; Grootaert and van Bastelaer, 2002), which can identify extensive social networks that are helpful in finding a job in a city (Granovetter, 1974), and strong social connections that are necessary for community collective action in a small village (Marwell et al., 1988). In addition, I differentiate between bridging social capital, which refers to social capital between two members of two different groups, and bonding social capital, which refers to capital within the same group (Putnam, 2000). These categories have been guided by Grootaert and van Bastelaer (2002) as well as an extensive review of the empirical social capital literature. Section 4.4 provides further description of the questionnaire and variables used for the analysis and how they are combined using factor analysis to form four dimensions of social capital: trust, bonding social capital, non–institutional social capital and weak

social capital.

The current understanding of how conflict induced displacement and return affects social capital is weak, and the results are theoretically ambiguous. We might expect forced displacement to destroy and disrupt social capital, as large geographical distances are created between previous neighbours, and meeting friends and family becomes difficult and dangerous. Because old neighbours live far apart, they might not be able to rely and depend on each other as much as before. Trust could deteriorate as friends see each other less, and are forced to compete for limited resources. Upon returning home social capital could be restored.

On the other hand, social capital can be used throughout the displacement process as an essential resource when governments and institutions are weak or even untrustworthy. In addition, entire social networks can be displaced collectively (Harpviken, 2009). Sayigh (1978) finds that when Palestinians were displaced from Palestine to Lebanon in 1948, there was a reliance on social and kinship networks which were used as a survival tool in the absence of a formal government. This was reinforced by the collective trauma and *nakba*[2]. Also, in this age of easy mobility and communication, geographical distance need not imply a disruption to social capital, this is especially true of internal displacement and migration within the same country. It is even likely that those displaced for a long period of time will be able to build new networks that can be maintained once returned home.

These hypotheses imply three possible effects of return on social capital:

- If displacement destroys social capital, then returning home might restore it, and higher social capital amongst returnees compared to the displaced will be observed. This is especially true for returnees who have been displaced for long periods of time, as they have formed new networks and relationships.
- On the other hand, social capital might not be the priority upon returning home, because for example, households do not have a completed and furnished house ready for entertaining.
- If social capital is maintained throughout the displacement, there will be no impact of return.

Theoretically, the impact of return on social capital is not immediately clear and thus an empirical analysis is needed.

4.3 Context

4.3.1 Nahr el–Bared camp

Palestinian refugees represent a specific refugee situation, in that it is one of the longest cases of protracted displacement in the world (Dumper, 2006). It has been 67 years

[2]Nakba is the Arabic word for disaster, which is used to refer to the exodus of 1948.

since they fled from Palestine, and up to three generations have been born in Lebanon. Palestinian refugee camps in Lebanon were established to host Palestinians who escaped the violence during 1948 Palestinian *nakba*. Today, there are 12 official camps, managed by UNRWA (United Nations Relief and Works Agency for Palestine Refugees in the Near East), which host around 280,000 registered refugees. Marginalised and denied many of their rights by the Lebanese government, social and family ties have become an important part of life for Palestinians in Lebanon, a coping strategy to deal with the current situation (Sayigh, 1978).

The Nahr el–Bared refugee camp (NBC) was established by the League of Red Cross societies in 1949. NBC, a small enclosure of around 2 km^2, is located in the north of Lebanon, around 20 km from Tripoli (the capital of the North Lebanon district). Prior to 2007 the camp was host to around 27,000 individuals (4,600 households) (UNRWA, 2008a).

Nahr el–Bared camp is administratively divided into two parts, section A and section B. While section A was the land assigned to Palestinian refugees by the Lebanese government in 1949, due to population growth the boundaries of the camp have expanded to include section B. Figure 4.1 shows section A in pink and the shaded area around it is section B. The distribution of residents (as they were living in Nahr el–Bared prior to the 2007 war) between the sections is shown in table 4.1 — section A is the more densely populated part of the camp. As explained in the following sections, my analysis is conducted separately in each of sections A and B, and section 4.5 of this chapter discusses possible differences between these two sections that could yield different results, including population densities.

4.3.2 War in 2007 and displacement

In May of 2007, fighting broke out in the camp when members of Fatah al–Islam stole money from a bank near Tripoli, and hid in apartments in the area. Fatah al–Islam is an Islamist militia that was able to reside in NBC due to the absence of Lebanese security and intelligence within the camp.

The Lebanese armed forces raided these apartments killing several militants (Ramadan, 2009). In retaliation, members of Fatah al–Islam attacked an army base outside the camp, brutally killing ten Lebanese soldiers. The Lebanese army then began shelling the camp, and the three month long war ensued. 47 civilians were killed, 95% of buildings in section A of the camp were completely destroyed or damaged beyond repair, and the majority of households were forced to flee from their homes. The neighbouring Beddawi refugee camp hosted a large number of the 'internally displaced refugees', and the remaining families were displaced to various parts of the country, the majority remaining in North Lebanon. Figure 4.3 shows where households stayed during the displacement, with the majority staying with family who were living in other parts of the country.

The neighbouring Beddawi refugee camp hosted a large number of the 'internally displaced refugees', and the remaining families were displaced to various parts of the country,

the majority remaining in North Lebanon, as shown in figure 4.2. Figure 4.3 shows where households stayed during the displacement, with the majority staying with family who were living in other parts of the country. There is a clear majority of households staying with either friends or family, but other collective centres such as schools, garages and mosques were also used as temporary shelter during the initial phase of displacement. On average households have moved 2.7 times (including the initial displacement) since 2007.

88.64% of households in the sample were displaced all together, and of the households who were not displaced all together, only two households had members who did not join them later on.

After the war, section A was almost completely destroyed by aerial bombardment from the Lebanese military, as this was where Fatah al–Islam militants were residing. Section B, on the other hand, was not subjected to as much destruction. Figure 4.4a shows the geographical distribution of the destroyed buildings, with completely destroyed buildings mapped in red. We notice a concentration of destruction within the confines of section A, but a more sporadic distribution of damaged buildings in section B. It should be noted that Palestinians from NBC were not in support of Fatah al–Islam, but had to put up with them because of fear of retaliation (Ramadan, 2009). In fact, as a part of the robustness checks in section 4.8 I have controlled for trust in 'local forces', a proxy for Fatah al–Islam, in case households from section A were more trusting of these fighters to begin with.

4.3.3 Return process

During the war, all residents of Nahr el–Bared camp were evacuated and displaced to nearby camps. The majority of residents were displaced from Nahr el–Bared camp during the first few days of the war. Since the initial displacement, 22.54% of the sample had returned home. As explained below and in figure 4.5, the return process was different in sections A and B.

Firstly, residents of section A were unable to return home immediately after the war. Rather, the decision of returning home was left to UNRWA, an external agency. As section A was almost completely destroyed from aerial bombardments during the war, the area needed to be cordoned off to ensure the safety of the residents. UNRWA divided section A into eight unique geographical packages. The partition of the camp was not random, instead the camp was partitioned into four quadrants and the far right quadrant was rebuilt first alongside neighbourhoods closest to the sea. UNRWA did not disclose any reasoning behind this choice, and it is thought that they expected to receive funding for all the reconstruction at once. While they started work in one corner of the camp it was not envisioned that packages of the camp would be finished before others. As it happened, there were delays to construction because of a lack of funding and due to the discovery of an ancient archaeological site, so UNRWA allowed those whose dwellings were rebuilt to return home. At the time of my fieldwork, only 3 packages have been rebuilt, and 332 households (or 33 households from the sample and 7.35% of residents of section A) had

returned home. Figure 4.4b gives us an idea of the reconstruction process within section A. Buildings in blue have been reconstructed, whereas buildings in grey belong to packages which have not yet been financed.

This return process in section A made the decision to return outside the hands of the household and therefore uncorrelated to any socio–economic characteristics and independent of labour market outcomes. In order to provide evidence of this exogeneity, I have constructed pre–war characteristics based on the dataset and compared households and individuals who had returned and found little difference. I also rule out the possibility that households with connections to UNRWA are able to have their dwelling rebuilt by controlling for a contact with UNRWA as part of the robustness checks. This identification strategy is explained further in section 4.5.

As for the households originally from section B, if their dwellings were exposed to superficial or no damage, households were able to return home soon after the war ended. Remaining households have struggled to put together the funds to rebuild their houses, with little support from the Norwegian Refugee Council and other NGOs. As the decision of return is highly dependent on whether the household's original dwelling was destroyed during the war, this is used as an instrumental variable to predict the return status of the household. In this way, I can purge the return decision from any factors that are correlated with household characteristics, such as job opportunities and social networks, which can independently affect social capital. I also control for current household wealth measured by consumption and assets, in case poorer households with poorly built houses were those that were destroyed. This is explained further in section 4.5. Figure 4.5 summarises the return process in both sections of the camp.

Palestinians do represent a specific community within Lebanon and we might be concerned that lessons learnt from this case study are exclusive to a population that have been displaced twice. But in reality only 4.6% of the sample were alive at the time of the initial displacement. Although living standards and social isolation are unfavourable, many Palestinians have set up home within the camp — their situation of displacement becoming a permanent status, especially since the Oslo Accords of 1993 which have severely diminished the chances of return to Palestine. This does not mean that Palestinian refugees have given up on their right of return, but for the definition of returning used in my analysis it is safe to say that Palestinian refugees from Nahr el–Bared still regard the camp as a home —be it a home away from home (Ramadan, 2010). The displacement of households from Nahr el–Bared camp can be comparable to many cases of forced displacement and returning around the world, from Sri Lankan asylum seekers in the UK who have been forced to return, to the large scale return of refugees to Bosnia and Herzegovina.

The analysis of this chapter relies on households who are displaced and those have returned to be similar in every way if the war had never happened. Unfortunately, I do not have a pre–war dataset that I could match to the current dataset in order to compare characteristics of the displaced and returnees. Tables 4.8 and 4.9 compare constructed pre–war characteristics between the returnees and the displaced in each of sections A and

B.

The pre-war characteristics were created by excluding individuals from the sample below the age of five. Five years have been subtracted from the ages, I also constructed certain education variables by excluding those who were younger than 27 in the current dataset, or 21 at the time of the war in 2007. These constructed variables can be considered as proxies for pre–war characteristics, and the differences in averages across these variables between the displaced and returnees are not significant. The one exception to this is the literacy rate in section A, returnees have higher literacy than the displaced. There is no reason to believe that educated households were systematically targeted and asked to return, so I have considered this to be an anomaly in the data and controlled for literacy in the subsequent analysis. When conducting multiple hypothesis testing, 5% of tests will provide a significant result due to the nature of the test (Shaffer, 1995). In this case, we are testing for differences amongst 30 variables, so it is expected that in 1.5 cases we will find a significant result.

4.4 Data collection and data

In order to obtain the information needed for this research question, I conducted a household survey with the help of a local NGO, Lebanon Support,[3] in February of 2012.

I collected a 590 household dataset, stratified so that a representative sample of households residing in each of the different residential areas was obtained. The sample was drawn from a database provided by the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). Collected soon after the 2007 war and over the following year, the aim of this database was to register and trace all households displaced from Nahr el–Bared camp. As displaced families approached centres throughout the country to receive aid and rent subsidies, UNRWA social workers gathered concise demographic information on the members of the households, the addresses of the household, and if possible a contact number. This information is updated each time rent subsidies are disbursed to displaced households, which at the time of the survey was three times per year. The version of the database which was used to create the sample for this household survey was last updated in December of 2012, i.e. one month prior to fieldwork.

Because the reality of the return process was only made clear to me after the data collection process, the sample was not equally split between section A and section B. Of the 590 households, 449 originally resided in section A and 141 in section B. With a modest impact size of around 0.1 standard deviations, this yields a power of 28% in section A and 14% in section B. This means that there is relatively high chance that true effects are shown to be insignificant. This should be kept in mind for the analysis.

Within each geographical strata households were selected randomly, either geograph-

[3] `http://daleel-madani.org/about-lebanon-support`

ically using the right–hand rule[4] or households were randomly selected from a list and traced. The choice of selection depended on how clustered households were in a given geographical strata—if households were dispersed then they were traced, but if they were clustered together then geographical selection on site was more appropriate. Because I used a stratified sampling methodology, different sampling strategies can be used for each stratum (Cochran, 1977).

The dataset was collected through face–to–face interviews with one member from each household using a pre–determined questionnaire programmed into tablet PCs. The data collectors interviewed an available household member if he/she was above 15. The respondent answered questions about all household members (e.g. the levels of health and education), questions at the level of the household (e.g. household expenditure on food), and questions related to the respondent him/herself (e.g. How many times have you visited a friend over the last week to socialize?).

4.4.1 Social Capital

The dataset includes more than twenty–five variables capturing the different dimensions of social capital. These variables and related questions from the questionnaire are listed in table 4.30 in the appendix, and include: the level of trust in neighbours; the number of times an individual socialised over the last week; and reactions to certain hypothetical situations, such as "Would you expect your purse or wallet to be returned to you if it was dropped in the street in your neighbourhood?". I also included some questions particular to the Palestinian culture, such as "How many times have you paid condolences to someone over the last year?". I also ask if households have a contact within UNRWA or the camp's popular committee in order to capture a prevalent form of social capital in the Arab world, social connections, or *wasta*. To the best of my knowledge this is the first paper that quantifies it.

First, I took a simple average of these variables to compute average social capital. Second, I used factor analysis to accommodate for any subtlety that might be cancelled out if the variables are averaged out (Narayan and Cassidy, 2001). To illustrate this, consider the variables that measure trust. Respondents are asked whether they trust certain groups of individuals (such as other Palestinians) and institutions (such as the Lebanese army) from a scale of one to four, ranging from completely distrust to completely trust. If I were to take an average of these trust scores, a potentially negative response to trust of the Lebanese army will be cancelled out by the likely positive response to trust of other Palestinians.

[4]If the total population size of a strata is 100, and the sample size required in this strata is 25, then $100/25 = 4$ is used as a counting rule. Enumerators would count three dwellings (verifying with locals that the dwellings were inhabited by one household) and interview the fourth household. If enumerators were faced with an intersection, they would always choose the right side. This ensures that all parts of the enumeration area are covered, and if enumerators choose different starting points, they will not cover the same ground.

In addition, factor analysis will divide social capital into independent dimensions, and attach weights to each of the social capital variables related to how much they explain the variance of a given component, whereas a simple average will assign an equal weight to two variables that are essentially measuring the same thing. For example, trust in neighbours is likely to be closely correlated with trust in Palestinians. Factor analysis will assign a weight to each variable that corresponds to how much extra variation the variables add to the social capital index. If trust in Palestinians does not add anything substantial to the measurement of social capital, then it will be assigned a low weight. Theoretically, factor analysis can identify two components of social capital — bridging and bonding social capital, if they are in fact independent of each other.

For these reasons, factor analysis allows the data to speak to the researcher, rather than forcing the data into pre–conceptualised dimensions of social capital. After I applied factor analysis to the data, four different and independent dimensions of social capital were identified.[5] After interpreting the size and sign of the weights given to each variable in the four dimensions, I attached four labels to these dimensions, as explained below:

Trust:
This dimension of social capital gives the highest weight to all the trust variables. These variables are based on a series of questions of the form "On a scale of 1–4, how much do you trust community leaders, committee leaders, local forces...".

Bonding social capital:
Referring to social capital within one community, this dimension gives a higher weight to social capital variables related to Palestinians, and sometimes negative weight to those related to the Lebanese. These variables include having a contact with the UN, having a contact with the camp's popular committee, belonging to a civic association or group, and trust in neighbours and Palestinians.

Non–institutional social capital:
This dimension gave larger and positive weights to social capital variables related to individuals, specifically the number of relatives and friends, the number of wedding invitations and times condolences were paid over the last year, the number of potential wedding guests if a family member got married today and the trust variables relating to individuals rather than institutions. In fact, trust in institutions such as the popular committee, community leaders and local forces have a negative weight.

Weak social capital:
The variables with a positive weight in this dimension are variables related to having extensive social capital: having a contact, being invited to weddings, paying condolences and belonging to a group. However, social interaction variables do not have much weight and trust variables have negative weight, and so we can interpret this as extensive social capital but of a weak quality, in reference to Granovetter's distinction between weak, extensive social ties and strong, dense ties (Granovetter, 1974).

[5]The Keiser–Olsen–Meyer statistic is 0.75, which is reasonably high, indicating that there is enough common variance amongst the variables and making it suitable for factor analysis.

Table 4.2 provides the weights of each of these variables for the four dimensions. The dimensions are standardised with a mean of zero and standard deviation of one. Table 4.3 shows us how the averages of these dimensions of social capital differ between the displaced and returnees in section A and section B. We see that social capital is lower across all dimensions for returnees in section A, but higher amongst returnees in section B (except for bonding and non–institutional capital where there is no significant difference). While we do not control for any other variables or address the possible endogeneity of return in section B, these descriptive statistics largely corroborate the regression results reported in section 4.6. Section 4.7 tries to understand why we see these two opposite effects of return on social capital.

4.5 Identification Strategy

I aim to estimate a causal effect of return on 5 different indexes or dimensions of social capital: average social capital, trust, bonding social capital, non–institutional social capital and weak social capital. Specifically, I am interested in estimating the following equation:

$$\begin{aligned} Social\ \ capital_{i,j} = \alpha + \beta_1 Return_k + \beta_2 Respondent_i \\ + \beta_3 Household_k + \beta_4 Population_l + \epsilon \end{aligned} \tag{4.1}$$

Where $Social\ \ capital_{i,j}$ is the j^{th} dimension of social capital (average social capital and the four dimensions specified in section 4.4) for respondent i and $Return_k$ is a dummy variable specifying whether the respondent's household k has returned or not. $Population_l$ is the number of Palestinians from Nahr el–Bared living in the area l of the household, a variable that will conceivably affect social capital. $Respondent_i$ and $Household_k$ are respondent and household covariates that are summarised in table 4.4. These variables are those commonly used in the literature when explaining the determinants of social capital (Glaeser et al., 2002), and proved to be significant in at least one of the specifications tested. In particular, the control variables are: the sex, age, and literacy of the respondent, whether the household is nuclear, the age of the oldest household member, the household sex ratio, an index of household assets, household monthly consumption, and whether the household stayed with friends or family during the entire displacement period (compared to renting a house or staying at a school or other institution).

In this case it is impossible to include fixed effects, because they would be collinear with the main variable of interest, return. Those who have returned all live within the same area, so there would be no variation below the 'treatment' variable. Robust standard errors are estimated to correct for any potential interdependence among the standard errors.

Deininger et al. (2004) propose that households are willing to return if the expected utility of returning is greater than the expected utility of remaining displaced or resettling. This utility depends on associated risks due to violent conflict in the area of displacement or potential return, the economic opportunities available for household members in both

areas, migration costs, and certain socio–demographic characteristics that might shape the preferences of the household. In particular, after forced displacement from the long–standing conflict in Colombia, Deininger et al. (2004) find that landowners, agricultural labourers and those with dense social networks are more willing to return home. On the other hand, more vulnerable groups and those who have experienced trauma before and throughout the displacement are less likely to return home.

Equation 4.1 will be biased if any of the socio–demographic characteristics not accounted for in the control variables that affect the return decision also affect social capital, or if they include social capital itself. If returnees inherently have higher social capital, then we will overestimate β_1, the effect of return.

As mentioned previously, the dynamics of the return process were different for households originally from section A and section B of the camp, and imply two different identification strategies. Due to this difference, I have divided my sample in two: households who originate from section A and households who originate from section B. In each section I address the potential endogeneity of social capital and return.

Before proceeding with the separate identification strategies it is worth mentioning that there are some concerns to splitting the sample in two, especially if the households from the two different sections are systematically different. However, this will not affect the return coefficient unless the systematic difference is correlated with the return effect. This is similar to using a fixed effect control at the section level, which would control for the effect of the section on the outcome variable. In section 4.8.4, as a robustness check I combined both sections to create one sample and then conducted the same analysis including section fixed effects. This yielded similar results to the ones reported in section 4.6. In other words, there might be characteristics of the camps that affect social capital in different ways, but this cannot not be driving the difference in results alone.

Based on anecdotal evidence and observations from the field, I list below three potential differences between these two camps and how I aim to control for this in the analysis and robustness checks:

1. Relationship with Fatah al–Islam

For some Palestinian residents, the fact that Fatah al–Islam was residing in Nahr el–Bared camp was heard on the eve of the war, as Lebanese news channels brought breaking news to the rest of the country. There is now a consensus that Fatah al–Islam is a non–local and external entity composed of Lebanese, Syrians, Palestinians and other nationals, aiming to establish an Islamic emirate (Hassan and Hanafi, 2010). Due to lax security of Palestinian camps, ambiguous land laws in NBC, and a lack of agreement among Palestinians on how best to deal with the infiltration, Fatah al–Islam managed to secure Nahr el–Bared camp as a jihadi base. Local support for the group was not a considerable factor in the establishment of their base.

However, if there is variation amongst Palestinians in terms of support for Fatah al–Islam, this might have effects on the social fabric of society upon return. For example,

supporters of Fatah al–Islam might be blamed for the war and displacement. Supporters could be ostracised by the rest of society, thus having lower social capital upon return. If it is the case that support was systematically different in section A and B of the camp, it could yield different effects of return.

While it was too sensitive to ask about support of Fatah al–Islam directly, I included a question asking how much the respondent trusts local forces. This does not spell out Fatah al–Islam in case the questionnaire ended up in the wrong hands, but there is an understanding that this refers to the Islamist militia. Table 4.5 shows no statistical difference between trust of local forces in section A and section B. If we also compare trust of the Lebanese army, which would be low if the respondent supported Fatah al–Islam, we also see no significant results. As a further test, trust of local forces and the Lebanese army are excluded from the social capital index and used as a separate regressor in table 4.23. These results are the same as the main results.

2. Age of camp

Section A of the Nahr el–Bared camp is often referred to as 'The Old Camp'. It was the land originally given to Palestinians once they were exiled from Palestine, and section B was a natural continuation of the small original allocation. While the age of the camp is a difference between the two sections, theoretically it is implausible to believe that this could change the way that return affects social capital. The age of the respondent is controlled for in the regressions, and this can act as a proxy for the age of social relationships.

3. Population density

Prior to the war, section A and section B had different population densities. The majority of Palestinians live in section A, an area which is around one tenth the size of section B. The density of the population could be related to social capital and how return affects social capital. For example, a household living in a densely populated neighbourhood during displacement could find that their social capital is reduced upon return to sparsely populated neighbourhoods. In order to test this empirically, I have included as a regressor the number of Palestinians from Nahr el–Bared living in the household's current neighbourhood in the main analysis.

As further evidence to show that any systematic difference between the two camps is not causing the effect of return on social capital to be different in section A and section B, I have compared the social capital of the displaced who are originally from section A to those displaced but originally from section B. Ideally, we would compare the pre–war social capital of section A and B, but this data does not exist. Table 4.6 shows that there is no statistical difference amongst the social capital of the displaced from section A and section B.

In addition to comparing social capital, table 4.7, compares pre–war individual and household characteristics of households originally from section A and those from section B. We see that there is a significant difference in education, section A residents are more educated. I have checked for impact heterogeneity of return across education backgrounds

(amongst other variables). The analysis does not find any heterogeneity along these lines, and while the results are not reported here, they are available at the request of the author.

4.5.1 Section A

As previously explained, in section A the camp was geographically partitioned into packages by UNRWA, making the decision to return outside the hands of the household and therefore uncorrelated to any socio–economic characteristics and independent of the social capital of the households. In section A I simply estimate equation 4.1 using ordinary least squares.

Table 4.8 provides justification for the exogeneity of return in section A, showing that there is little significant difference between returnees and displaced persons in terms of pre–war household and individual characteristics. The pre–war characteristics were constructed using certain variables that are unlikely to have changed because of the war, displacement or return. This includes individual level sex, age, and literacy as well as household level sex ratio, average age, household size, dependency ratio, number of children in the household and number of working members. When constructing these variables I excluded all of those born after the war in 2007. I also constructed certain education variables by excluding those who were younger than 27 in the current dataset, or 21 at the time of the war in 2007. There seems to be a slight difference in literacy between returnees and displaced persons, but there is no reason to believe that educated households were systematically targeted and asked to return, since the camp was clearly divided into packages in a transparent manner. Nevertheless, education of the respondent is controlled for in the main analysis.

It can be argued that households with close connections to officials rebuilding the camp have influenced the reconstruction process. As part of the robustness checks in section 4.8, I control for connections to UNRWA and find no difference in results. A second potential challenge to the exogeneity of return could result from some households whose dwellings were reconstructed but might not want to return home, because they have built new social capital and networks during displacement. In this case we would be estimating a biased effect of return by comparing returnees to a contaminated sample. As a robustness check in section 4.8, I exclude households who do not want to return, a total of 14 households in section A, and the results are similar to those reported in the main results.

4.5.2 Section B

In section B of the camp, households make a decision, but this largely depended on whether their house was destroyed or not. If a household's dwelling was not completely destroyed after the war, they were able to return home. If not, households struggled to find the funds to rebuild their houses and have remained displaced. As I worry that the social capital of households, or characteristics of households related to social capital, might predict the

decision of returning home, I use the destruction of the household's original dwelling as an instrumental variable to predict return. To be a valid identification strategy, destruction needs to be exclusive (i.e. independent of social capital except through returning home) and relevant (i.e. a strong predictor of return).

Exclusivity:
The destruction of the dwellings in section B of the camp is a sporadic spill–over from the aerial bombardment that completely destroyed section A. Households were evacuated from NBC before the Lebanese army began the aerial bombardment operation, so it is unlikely that the destruction of dwellings was a targeted attack based on the social capital (and correlates of social capital) of the residents of the dwellings. This makes the destruction of dwellings an exclusive instrumental variable. As further justification, table 4.9 provides a balance table of pre–war characteristics (similar to those constructed for section B) between households whose dwellings were destroyed and households whose dwellings are not destroyed. We find no significant differences in these characteristics.

Despite this, it can be argued that there are potential challenges to this exclusivity. Firstly, dwellings that were of poorer quality could be those that did not withstand the bombardment and were razed to the ground. These dwellings are likely to belong to poorer and more vulnerable households. This confoundment is not likely because the power of rockets used by the Lebanese army would have destroyed any building no matter its foundations, but nevertheless I control for household wealth by including an index of household assets and consumption in the main analysis. Secondly, it could be argued that households who supported Fatah al–Islam were targeted by the Lebanese military, which would play a role in determining social capital. While this is unlikely because Palestinians had since evacuated the camp, as a robustness check I also control for trust in 'local forces', a proxy for Fatah al–Islam.

It is worth noting that the over–identification test, or Sargan–Hansen test, can statistically test for exclusivity of an instrumental variable if at least two instruments are used. Unfortunately I only find one relevant instrument, otherwise this test would have been conducted.

Relevance:
The second criteria for a valid instrumental variable is its relevance, i.e. whether destruction is a good predictor of return. After the war ended, some Palestinians from section B found themselves in a difficult situation. These households arrived at the camp to find their houses razed to the ground. With insufficient funds to rebuild their dwellings, and no help from the Lebanese government, UNRWA or other NGOs, most households waited it out. They either tried to save enough money for construction costs, or thought that UNRWA would pick up the pieces (ultimately they did not, and at the time of writing many of these households remain displaced). But households who were lucky enough to not have their dwellings destroyed returned as soon as the war ended. As further evidence of the relevance of this instrument, consider the first stage of the instrumental variable

regression, which estimates the following equation:

$$\begin{aligned} Return_k = \alpha + \beta_1 Destruction_k + \beta_2 Respondent_i \\ + \beta_2 Household_k + \beta_4 Population_l + \epsilon_j \end{aligned} \tag{4.2}$$

Where the $Return_k$, $Respondent_i$, and $Household_k$ are the same as those described previously. Destruction is a binary variable equal to one if the household reported their dwelling as being completely destroyed during the war, and zero if their houses were not destroyed or only superficially damaged. The results of this regression are reported in table 4.10.

When using a binary dependent variable in the first stage of an IV estimation, an OLS regression should be applied (Angrist and Pischke, 2009). This is because the results of this estimation will be used for the second stage regression, which requires residuals of the first stage to be uncorrelated with the predicted values. Using a non–linear estimation such as a probit or a logit can produce residuals that are correlated with predicted results. In this case, a linear probability model provides an approximation for the non–linear relationship, and the coefficients should be interpreted with caution. So, we can say that having a dwelling that is completely damaged by the war reduces the chances of returning home by *approximately* 47 percentage points, all other variables held constant. This is also a highly significant result.

Table 4.11 provides further statistics that show the relevance of destruction as an instrument, and with a F–statistic of 16.97, higher than the rule of thumb of 10 (Stock et al., 2002), we can be confident in the strength of the IV.

The second stage of the two–stage least squares then estimates the following equation:

$$\begin{aligned} Social\ \ capital_{i,j} = \alpha + \beta_1 Return_k^* + \beta_2 Respondent_i \\ + \beta_3 Household_k + \beta_4 Population_l + \epsilon \end{aligned} \tag{4.3}$$

Where $Return^*$ is a variable consisting of the predicted values based on the first stage regression using destruction as an instrumental variable. The remaining independent variables are the same as before.

In both equations 4.1 and 4.3 the dependent variables are standardised with a mean of zero and standard deviation of one. In this case, coefficients β are interpreted as: a one unit increase in the covariate leads to a β standard deviation change in the dependent variable. If the covariate is a binary variable, as is the case of return, then the coefficient β_1 represents the impact effect of return on social capital in standard deviations. However, in the case of the second stage of an IV estimation, return is no longer binary, but rather a predicted probability. In this case if the likelihood of return increases by one probability point, we will see a change in social capital of β_1 standard deviations.

4.6 Results

Table 4.16 produces the regression results for the impact of return on average social capital (columns 1–3), trust (columns 4–6), and bonding social capital (columns 7–9). The results are continued in table 4.17, with the impact of return on non–institutional social capital (columns 1–3) and weak social capital (columns (4–6)). For each of these dependent variables the first columns (columns 1, 4, 7 in table 4.16 and 1 , 4 in table 4.17) are the results in section A, and the second two columns for each dependent variables (columns 2,3,5,6,8,9 in table 4.16 and 2,3,5,6 in table 4.17) are the results for section B, estimated first using ordinary least squares and then two stage least squares.

When considering the results of section B, it is worth comparing the OLS results to the IV results. The magnitude of the return coefficients in each of the five regressions has changed slightly with the introduction of an IV. In table 4.16, for average social capital (columns 2,3), trust (columns 5,6) and bonding social capital (columns 8,9) the effect of return is smaller when using an IV, indicating that the OLS results provided an overestimate and that the households who returned home were likely to have more average social capital, trust and bonding social capital to begin with. On the other hand in table 4.17, the OLS results produce an underestimate of the effect of return on non–institutional social capital (columns 2,3) and weak social capital (columns 5,6). This means that households who returned had less non–institutional social capital and weak social capital to begin with. These changes in effect size show us that it was correct to worry about the endogeneity of return in camp B. The standard errors for the effect of return are greatly increased, as is normal when introducing an instrumental variable. Combined with a lower coefficient, this makes the effect return on average social capital no longer significant.

In the following I discuss the effects of return for each of the dimensions of social capital in each of sections A and B. I have also included a description of the significant determinants of these dimensions of social capital.

Average social capital

In section A we see that return decreases average social capital (column 1) by 0.322 standard deviations. In addition, households with greater assets and a male to female sex ratio have higher average social capital. The number of Palestinians from Nahr el–Bared living in the household's community slightly increases average social capital.
In section B, return does not affect average social capital (column 3). Older respondents, and those who stayed with friends and family during the displacement period, have higher average social capital today.

Trust

In section A there is no effect of return on trust (column 4). If the ratio of males to females in the household increases, so do levels of trust. Households who stayed with friends and family during the displacement phase see an increase in trust of 0.479 standard deviations. In section B there is also no significant effect of return on trust (column 6). Older respon-

dents are more trusting, as are households who stayed with family and friends during the displacement.

Bonding social capital

In section A return decreases bonding social capital by 0.32 standard deviations (column 7). As the number of males to females in the household increases, so does bonding social capital. Interestingly, when the number of Palestinians in the neighbourhood increases, bonding social capital decreases.

In section B there is no significant effect of return on bonding social capital (column 9). We see lower bonding social capital for those who stayed with family and friends during the displacement.

Non–institutional social capital

In section A we see that return decreases non–institutional social capital (column 1 of table 4.17) by 0.343 standard deviations. Household consumption slightly increases non–institutional social capital.

In section B, non–institutional social capital is increased by 0.751 standard deviations if the probability of return is increased by one probability point (column 3 of table 4.17). Households with more household assets also have more non–institutional social capital. Staying with friends and family during the displacement means the respondent has higher non–institutional social capital.

Weak social capital

In section A we see that return decreases weak social capital (column 4) by 0.609 standard deviations. Male and older respondents have higher weak social capital. If the respondent is male, weak social capital increases by 0.414 standard deviations. Households with more household assets also have more weak social capital.

In section B there is also no significant effect of return on weak social capital. The only significant covariate is whether the household stayed with family and friends during displacement, which increases weak social capital by 0.333 standard deviations.

In sum, while average social capital, and in particular bonding, non–institutional and weak social capital, are reduced upon return in section A, non–institutional social capital has increased upon return in section B. As a reminder, non–institutional social capital refers to the trust and social relations in individuals such as neighbours and family, compared to institutions such as the camp's popular committee or the Lebanese army. Bonding social capital refers to the social capital amongst Palestinians, particularly those from Nahr el–Bared camp, rather than social capital with the Lebanese. Weak social capital refers to the extent of social capital, large networks, contacts in high places, but these relationships are also characterised by mistrust.

The next section tries to understand why we might be observing these contradictory results.

4.7 Mechanisms

This section looks at the possible mechanisms which might explain why social capital (in particular non–institutional, bonding and weak social capital) decreases upon return in section A, and non–institutional social capital increases upon return in section B. These two results can either be explained by a systematic difference between the two sections, or the different return processes in sections A and B.

As explained in section 4.5, we rule out any systematic difference in sections A and B by controlling for the age of respondent and population density. In addition, as a robustness check in section 4.8, we have excluded trust in local forces and the Lebanese army from the social capital indexes to include them as controls in the regressions. There are no differences in results.

This means that the difference in results between sections A and B are more likely to be due to the different return processes. Firstly, households from section A returned in groups, which could influence social capital. Secondly, households from section B returned home soon after the war ended, as opposed to households from section A, who returned home on average 5 years later.

Return in section A is done by package

These two differing results could be explained by the fact that households in section A returned with their neighbours in packages, as opposed to the less systematic return of households in section B. However, we would expect this to have a more positive effect on social capital (as opposed to a negative one) in section A, which is not what we observe. In fact, in table 4.12 below we see that 33% of returnees from camp A report their friends and families have returned, significantly lower than 52% of returnees from camp B.

Table 4.18 shows the results when including a variable for whether friends and family have returned. The decrease in social capital is still observed in section A, which means that independent of whether friends and family have returned, there is still a decrease in social capital for those from section A.

In section B, the positive effect of return on non–institutional social capital is no longer significant (column 8), indicating that rather than return playing a role, it was the fact that households had returned to a camp with their friends and family. On the other hand, the coefficient of return on weak social capital has increased, becoming significant (column 10). Controlling for whether friends and family have returned, an increase in the likelihood of return by one percentage point will increase weak social capital by 1.12 standard deviations.

Time since return and length of displacement

The concentration of the aerial bombardment in section A has led to a divergence in the timing of return between original residents of section B, who are able to return home soon after the war (in 2007), and residents of section A, who are only able to return home later (since the first package was completed in 2010). On average, those originally from section A were displaced for five years before returning, and those from section B for one year. Figure 4.6, and tables 4.13 and 4.14 show the difference in the years of return between these two groups.

To test whether the timing of return has caused these contrary results, I look into the number of years of displacement. Unfortunately, as shown in table 4.13, only returnees in section B provide us with enough variation in the length of displacement to analyse statistically. Table 4.19 reports the results of the regression when I replace the return variable three different variables indicating the timing of return. It is important to note that the destruction of the dwellings is not a relevant instrument for the timing of return in section B, so we need to interpret these results with caution.

When return is split up into those who have returned within one, two and three years, we have quite different results. The effect of return on average social capital and trust for those who return within one year is significant and positive. While this effect is no longer significant for those who return within two or three years, the coefficients are much smaller. The large effect of return on non–institutional social capital seems to be largely driven by those who have returned within two years, and this effect becomes close to zero for those who have been displaced for three years. While the effect of return on weak social capital is never significant for each of the three groups of returnees, the effect is positive for those who return within a year, and this becomes negative for those who return later. These results match the trend of a negative effect of return on social capital in section A.

The timing of displacement and return plays a crucial role in determining the effect of return on the social capital dimensions, however we are faced with a challenge: Is it the time spent away from home during displacement that reduces the effect of return on social capital (possibly becoming a negative effect after 2–3 years), or is it the time since returning home that rebuilds social capital that was destroyed?

It could be that if households have enough time to settle down after returning home, they can reconnect with old friends and rebuild social capital after being away for a long time. However, social capital might be destroyed during long periods of displacement, and those who had been displaced for a long period of time do not manage to rebuild their social capital, whereas the early returnees do.

In this case study all households were displaced from NBC at the same time, in May of 2007, which means that the time of displacement is a direct function of the time of return:

$$\text{Length of displacement} = \text{Time of return} - 2007$$

$$\text{Time since return} = 2012 - \text{Time of return}$$

Combining these two equations we get:

$$\text{Time since return} = 5 - \text{Length of displacement}$$

So for example, if a household returned to the camp in 2010, then length of displacement is three years, and the time since return is 2 years.

In the next subsection I try to use a proxy for the time since return and see if this is driving the results.

Proxying time since return

It is likely that households who have only returned recently have not had enough time to set up and be ready for certain kinds of social capital. A household who has just returned to a newly constructed house might not have the facilities to entertain and socialise with friends and family, thus decreasing their levels of social interactions. In addition they might not have the time or energy to focus on their social life, as there are more pressing concerns upon return, such as setting up the house and settling down.

Respondents were asked if they have enough furniture in their house for family to sit and have dinner together. I use furniture as a proxy for how settled down the household is, and the tables 4.20 reports the results of including this variable.

In section A we see that the negative effect of return on social capital indexes is no longer significant, except for 'weak social capital', mainly due to a decrease in the coefficients upon the introduction of the furniture variable. This indicates that the differential effect of return is due to the fact that early returnees have not had enough time to rebuild their social capital.

4.8 Robustness Checks

I have conducted various robustness checks in this section to make sure that the results reported above are robust to different specifications.

4.8.1 Controlling for connections and trust in local forces

For this robustness check I exclude connections to UNRWA and the popular committee from the social capital indexes in case they bias the return of households. This produces slightly different dimensions of social capital, as shown in table 4.21. The results are reported in table 4.24, with little difference to the main results.

In addition, in table 4.5 I repeat the analysis excluding trust in local forces and find little difference. Table 4.22 show how the social capital dimensions have changed.

4.8.2 Excluding those who do not want to return

It is entirely possible that those who are displaced would rather remain displaced because they have resettled and formed new and better social capital than is possible upon return. Anticipating this, I included the following question in the questionnaire, to be asked to those who are still displaced:

"Would you like to return home to Nahr el–Bared if you had the opportunity?"

16 respondents said 'No': 14 from section A and 2 from section B. The responses to why they would not like to return are summarised in table 4.25. The reasons provided are not surprising, but might be problematic for the analysis as they can be related to social capital. Tables 4.26 reproduce the analysis but exclude the 16 households that do not want to return and we find that the results still hold.

4.8.3 Increasing sample size by excluding trust variables

A limiting factor to this analysis is the small sample size. For this robustness check I try to increase the sample size by excluding the variables that have fewer observations. Most of the questions about trust have a lower sample size because some respondents refused to answer these sensitive questions. Table 4.27 reproduces the factor analysis on the social capital variables excluding the trust variables, and one factor is created with a high KMO of 0.648 and eigenvalue of 1.14.

The variables with low weights are those related to instrumental connections, rather than deeper family and friendship ties which have larger weights. Table 4.28 provides the regression results for section A in column (1) and section B in column (2).

This specification increases the sample size from 301 to 399 households in section A and 109 households to 129 households in section B. If the sample size is what is causing less significant results in section B, we would expect this specification to increase the significance of the result.

In section A these results are consistent with the primary results, social connections and interactions decrease upon return in section A. However, in section B, rather than become more significant, the positive effect of return on social capital is no longer significant. This indicates that in section B trust has a greater role in the relationship between return and social capital compared to the other social capital variables.

4.8.4 Combining section A and B into one sample

Here I have combined both sections into one sample and estimated the following equation:

$$Social\ \ capital_{i,j} = \alpha + \beta_1 Early\ \ Return_i + \beta_2 Late\ \ Return_i + \beta_3 Respondent_i$$

$$+\beta_4 Household_k + \beta_5 Section\ \ B_l + \epsilon$$

Where $Early\ \ Return_i$ is a binary variable equal to one if the household has returned home early (within the first three years of the war ending), and $Late\ \ Return_i$ is a binary variable equal to one if the household returned home late (beyond the first three years of the war ending). For this specification I have also included a binary variable $Section\ \ B_l$ which controls for whether the household is originally from Section A or Section B of Nahr el–Bared. Table 4.29 reports the regression results which are largely in line with the primary results and the mechanism that looks at the timing of return. Early return increases average social capital, trust, and non–institutional social capital but decreases bonding social capital. Late return decreases average social capital, bonding social capital, non–institutional social capital and weak social capital.

4.9 Conclusion

In this chapter I have presented an empirical study of the effect of return on social capital based on a household survey of residents from a Palestinian refugee camp. The residents were displaced due to a three month long battle between the Lebanese army and an Islamist militia. I compare the social capital of households who have returned to the camp and those who have remained displaced, after collecting an extensive household dataset capturing the different dimensions of social capital. I have used an instrumental variable and exploit the exogenous nature of the return process in order to estimate a causal effect of return. The results are two–fold: compared to the displaced, social capital is lower in section A but higher in section B.

If social capital was a resource that could simply be moved across time and space, then we would observe no effect of return. But in fact, we see that social capital is broken down upon return, and is built up again slowly once households have settled down. This destruction of social capital has taken approximately five years to recover, a long time for households dependent on social support as a coping strategy during hard times.

While this conclusion is somewhat intuitive, I have illustrated processes and dynamics in the social capital creation process which have not been understood before. Displacement is a traumatic and damaging experience, and before imposing solutions, it is important to understand the coping strategies, informal institutions and social dynamics that are in place, and the implications for return.

This chapter shows that social capital is fragile, and care needs to be taken when dealing with return. Social capital suffers upon immediate return, and although it will naturally revert to previous levels (if not higher), some support can be given to speed up this process. For example, financial support can be given to local groups and associations that encourage individuals to meet, socialise and build networks. Social spaces (in the form of libraries, cafes, and club houses ...) can be created to allow returnee households to socialise and meet regularly if they do not have the space to do this immediately. Fun activities and social events can be organised that bring together returnees once they

arrive home. Furniture can be provided to households to allow them to set up house and entertain and socialise with friends and family upon return.

The number of refugees and IDPs is reaching levels higher than those seen in World War II, and governments and agencies are offering varying levels and types of support. As of writing, the revolutions and conflicts in the Arab world have generated millions of refugees, and once the conflict ends, a top concern will be the return of these households. Whether living in camps, with friends or family, or moving to a new city or country, conflict induced displacement is a protracted, traumatic, uncertain and sometimes isolating process, with implications to the social capital of refugees, IDPs and returnees that ought to be considered.

4.10 Appendix A: Figures

Figure 4.1: Map of NBC. Source: Group (2012)

Figure 4.2: Area of initial displacement (author's dataset).

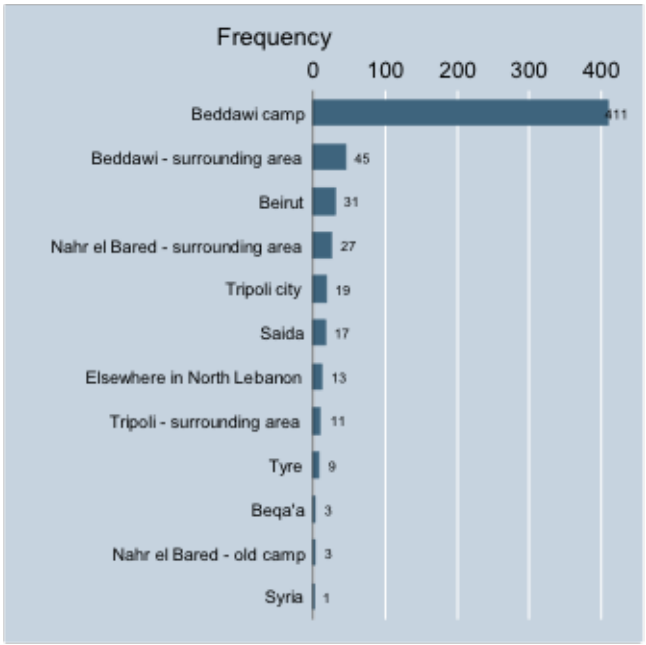


Figure 4.3: Households stay during displacement (author's dataset).

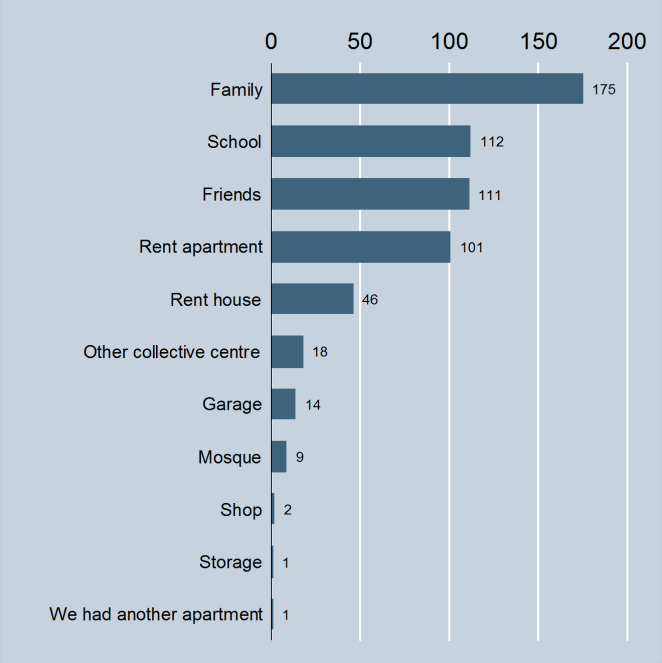
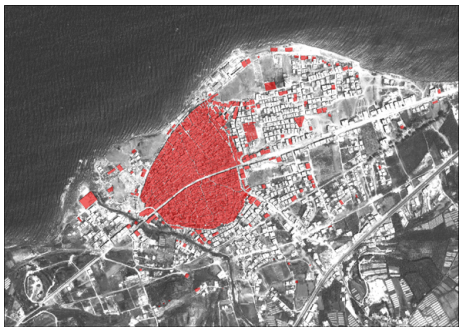


Figure 4.4: Maps of Nahr el–Bared camp. Both from Nahr el–Bared reconstruction committee for civil action and studies.

(a) Completely destroyed buildings in red



(b) Completed packages in blue

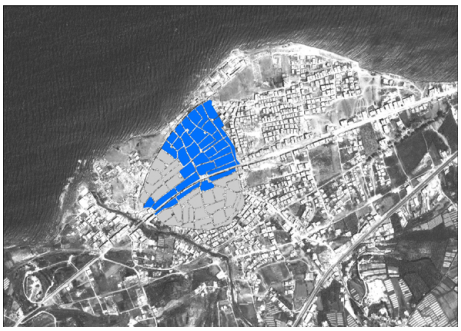


Figure 4.5: Return Process

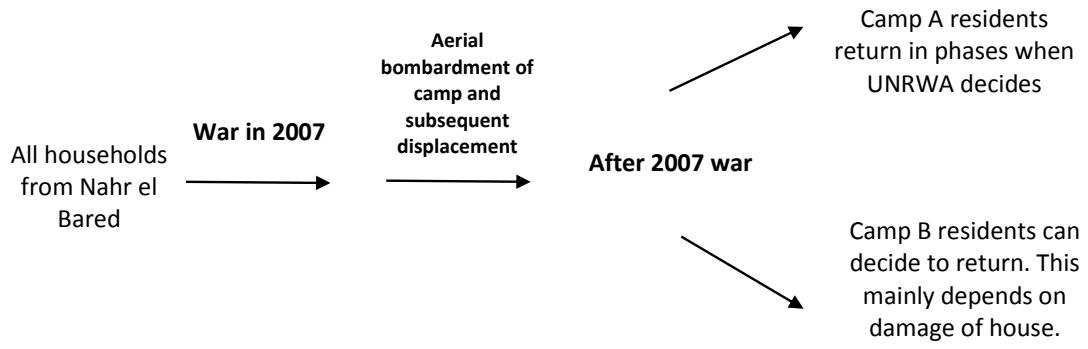
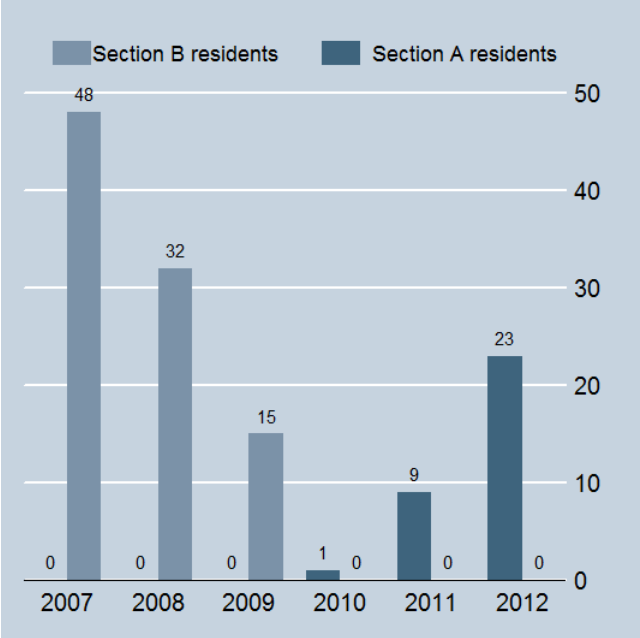


Figure 4.6: Year of return (from author's dataset).



4.11 Appendix B: Tables - Descriptive Statistics

Table 4.1: Original distribution of population amongst section A and B

	# of households in sample	% of households in sample	Estimated # of Hhds in population
NBC section A	449	76.1	4638
NBC section B	141	23.9	1456
Total	**590**	**100**	**6094**

Table 4.2: Weights of social capital variables from factor analysis

Variable	**Trust**	**Bonding SC**	**Non–institutional SC**	**Weak SC**
# of relatives	0.0655	-0.0505	**0.4101**	0.0499
Friends in community	0.0676	0.0067	**0.3787**	0.1372
Friends outside community	-0.0056	-0.0384	**0.2537**	0.1736
Contact with UNRWA	0.1363	**0.3809**	-0.2144	**0.2496**
Contact with committee	0.1966	**0.421**	-0.1688	**0.3233**
Wedding invitations	0.0606	**0.2038**	**0.3491**	**0.3191**
Wedding invitees	0.0738	0.1727	**0.3391**	**0.2659**
Socialising in last week	0.0001	0.1662	**0.4265**	0.1007
Paying condolences	0.1471	0.163	0.1645	**0.2759**
Belong to group	0.0124	**0.3096**	-0.013	**0.2218**
Community is honest	0.2907	0.0191	0.0345	**-0.4346**
Community lies	-0.1394	0.1046	-0.0459	0.1262
Purse would be returned	**0.3745**	-0.0005	**0.2359**	**-0.2802**
Trust: Community leaders	**0.655**	0.0726	**-0.4078**	0.1212
Trust: Popular committee	**0.6766**	0.0457	**-0.3643**	0.0634
Trust: Local forces	**0.6976**	0.1081	**-0.3983**	0.0827
Trust: Religious leaders	**0.4938**	0.0358	-0.0927	-0.1475
Trust: Neighbours	**0.417**	**0.3103**	**0.3371**	**-0.2464**
Trust: Palestinians from NBC	**0.396**	**0.356**	**0.2333**	**-0.2651**
Trust: Palestinians	**0.4303**	**0.3396**	0.2103	**-0.2678**
Trust: Lebanese civilians	**0.5511**	-0.135	0.1261	-0.0297
Trust: Lebanese ISF	**0.6148**	**-0.5134**	0.1787	**0.2092**
Trust: Lebanese army	**0.5794**	**-0.486**	0.1695	**0.2366**
Trust: NGO workers	**0.5239**	-0.0991	0.1242	0.0931
Trust: UNRWA workers	**0.4575**	-0.0879	0.016	-0.0544

Source: Author's dataset. Weights that are higher than average are listed in bold font.

Table 4.3: Differences in social capital by return in section A and section B

	Section A			**Section B**		
	Mean		**Diff.**	**Mean**		**Diff.**
Variable	Return	Displaced		Return	Displaced	
Avg Social Capital	-0.48	-0.03	-0.44**	0.36	-0.13	0.48**
	(0.16)	(0.06)	(0.18)	(0.11)	(0.35)	(0.21)
Trust	-0.18	-0.05	-0.13	0.31	-0.17	0.48**
	(0.16)	(0.06)	(0.18)	(0.12)	(0.18)	(0.23)
Bonding Social Capital	-0.42	0.08	-0.5***	-0.11	-0.004	-0.11
	(0.15)	(0.06)	(0.18)	(0.12)	(0.19)	(0.22)
Non-institutional Social Capital	-0.43	-0.03	-0.4**	0.3	0.007	-0.22
	(0.13)	(0.06)	(0.18)	(0.12)	(0.13)	(0.21)
'Weak' Social Capital	-0.67	0.04	-0.71***	0.13	-0.06	0.19
	(0.14)	(0.06)	(0.18)	(0.1)	(0.14)	(0.19)

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.4: Summary statistics of control variables

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Sex of respondent (=1 if male)	0.253	0.435	0	1	590
Age of respondent	40.741	14.362	15	84	590
Respondent literacy (=1 if literate)	0.888	0.315	0	1	590
Household is a nuclear family (=1 if nuclear)	0.837	0.369	0	1	590
Age of oldest household member	50.047	15.496	19	100	590
Household sex ratio	1.254	1.116	0	9	590
Index of household assets	0	0.923	-1.941	3.635	587
Household total monthly consumption (in US $)	1019.432	743.111	110	5771.667	590
Household stayed with friends or family	0.534	0.499	0	1	590

Source: Author's dataset

Table 4.5: Differences in trust of local forces and Lebanese army between section A and section B

	Mean		**Difference**
Variable	Section A	Section B	
Trust of local forces	-0.017	0.052	-0.069
	(0.049)	(0.088)	(0.1)
Trust of Lebanese army	-0.031	0.091	-0.122
	(0.051)	(0.09)	(0.102)

Standard errors in parenthesis. Source: Author's dataset.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.6: Difference in social capital indexes for displaced from section A and section B

	Mean		**Diff.**
	Section A	**Section B**	
Avg Social Capital	-0.028	-0.152	0.123
	(0.06)	(0.18)	(0.18)
Trust	-0.051	-0.17	0.12
	(0.06)	(0.18)	(0.19)
Bonding Social Capital	0.09	-0.01	0.09
	(0.06)	(0.19)	(0.19)
Non–institutional Social Capital	-0.04	0.01	-0.04
	(0.06)	(0.13)	(0.19)
'Weak' Social Capital	0.05	-0.05	0.11
	(0.06)	(0.14)	(0.19)

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.7: Pre–war differences between section A and section B.

Variable	Mean Section A	Mean Section B	Difference	Variable	Mean Section A	Mean Section B	Difference
Individual level characteristics				**Household level characteristics**			
Sex	0.49	0.51	-0.03	Sex ratio	1.17	1.34	-0.16
	(0.01)	(0.02)	(0.02)		(0.06)	(0.09)	(0.09)
Age	25.06	23.52	1.53*	Average age	28.2	24.98	3.21**
	(0.41)	(0.65)	(0.79)		(0.65)	(0.91)	(1.27)
Literacy	0.86	0.93	-0.06***	Household size	4.46	4.93	-0.48
	(0.01)	(0.01)	(0.02)		(0.11)	(0.18)	(0.22)**
Ever attended school	0.91	0.97	-0.05***	Dependency ratio	0.26	0.25	0.01
	(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.02)
University	0.09	0.14	-0.04***				
	(0.01)	(0.02)	(0.02)				
Working	0.37	0.37	0.003				
	(0.01)	(0.02)	(0.03)				

Standard errors in parenthesis. Source: Author's dataset.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.8: Pre–war differences between displaced and returnees (section A)

Variable	Mean Displaced	Mean Return	Difference	Variable	Mean Displaced	Mean Return	Difference
Individual level characteristics				**Household level characteristics**			
Sex	0.49	0.46	0.03	Sex ratio	1.18	1.06	0.12
	(0.01)	(0.04)	(0.04)		(0.06)	(0.23)	(0.22)
Age	25.24	22.69	2.54	Average age	28.15	28.91	-0.76
	(0.42)	(1.51)	(1.57)		(0.66)	(3.2)	(2.51)
Literacy	0.85	0.93	-0.08*	Household size	4.47	4.33	0.14
	(0.01)	(0.03)	(0.04)		(0.12)	(0.42)	(0.75)
Ever attended school	0.9	0.97	-0.07	Dependency ratio	0.27	0.22	0.04
	(0.02)	(0.01)	(0.04)		(0.01)	(0.03)	(0.04)
Prim. school	0.79	0.85	-0.05	# of children in hhd	1.87	2.33	-0.45
	(0.01)	(0.04)	(0.04)		(0.09)	(0.37)	(0.36)
Int. school	0.65	0.71	-0.07	# of working members in hhd	1.02	1	0.02
	(0.01)	(0.05)	(0.06)		(0.04)	(0.12)	(0.14)
Sec. school	0.18	0.17	0.01				
	(0.01)	(0.04)	(0.05)				
University	0.09	0.05	0.04				
	(0.01)	(0.03)	(0.04)				
Working	0.37	0.42	-0.05				
	(0.01)	(0.06)	(0.06)				

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.9: Pre–war differences between households with destroyed and not destroyed dwellings (section B)

Variable	Mean Not Destroyed	Mean Destroyed	Diff.	Variable	Mean Not Destroyed	Mean Destroyed	Diff.
Individual level characteristics				**Household level characteristics**			
Sex	0.53	0.45	0.07	Sex ratio	1.38	1.15	0.23
	(0.02)	(0.05)	(0.05)		(0.1)	(0.22)	(0.23)
Age	23.57	23.27	0.29	Average age	24.69	26.34	-1.64

	(0.71)	(1.67)	(1.73)	(0.92)	(2.87)	(2.39)
Literacy	0.92	0.93	-0.01	Household size	4.97	4.76	0.21
	(0.02)	(0.03)	(0.04)		(0.2)	(0.5)	(0.48)
Ever attended	0.96	0.98	-0.02	Dependency	0.25	0.28	-0.03
school	(0.01)	(0.01)	(0.02)	ratio	(0.01)	(0.05)	(0.04)
Prim. school	0.74	0.78	-0.04	# of children	2.11	2.48	-0.37
	(0.02)	(0.04)	(0.05)	in hhd	(0.18)	(0.45)	(0.43)
Int. school	0.77	0.79	-0.02	# of working	1.07	1.04	0.04
	(0.02)	(0.05)	(0.06)	members in hhd	(0.06)	(0.11)	(0.14)
Sec. school	0.26	0.23	0.03				
	(0.02)	(0.05)	(0.06)				
University	0.14	0.13	0.04				
	(0.02)	(0.04)	(0.05)				
Working	0.36	0.41	-0.05				
	(0.03)	(0.06)	(0.07)				

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.10: First stage results

Variables	Return
Dwelling completely damaged	-0.473***
	(0.115)
Constant	0.118***
	(0.190)
Respondent controls	Yes
Household controls	Yes
Observations	107
R-squared	0.7612
F (11, 95)	29.67
Prob > F	0.000

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.11: First stage regression summary statistics

Variables	R–sq.	Adjusted R–sq.	Partial R–sq.	Robust F (1,5)	Prob > F
Return	0.7612	0.7335	0.3353	16.9706	0.0001

Table 4.12: Difference in return of friends and family for section A and section B returnees

	Mean		**Diff.**
	Section A	**Section B**	
Have family & friends returned	0.33	0.52	-0.19*
	(0.08)	(0.05)	(0.09)

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.13: Years of displacement for returnees in sections A and B

	Number of Returnee households	
Displaced for:	**Section A**	**Section B**
Less than 1 year	0	48
Less than 2 years	0	32
Less than 3 years	0	20
Less than 4 years	1	0
Less than 5 years	9	0
More than 5 years	23	0

Table 4.14: Difference in years since return between section A and section B returnees

	Mean		**Diff.**
	Section A	**Section B**	
# of years since return	0.33	4.28	-3.95***
	(0.09)	(0.08)	(0.15)

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

4.12 Appendix C: Tables - Regression Results

Table 4.15: Reduced form: Impact of return on social capital

	Avg SC		Trust		Bonding SC		Non-institutional SC		Weak SC	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	A	B	A	B	A	B	A	B	A	B
Return	-0.460**	0.507**	-0.125	0.477**	-0.508***	-0.114	-0.395**	0.292	-0.714***	0.189
	(0.180)	(0.213)	(0.178)	(0.226)	(0.180)	(0.223)	(0.180)	(0.218)	(0.187)	(0.190)
Constant	-0.0284	-0.152	-0.0513	-0.168	0.0867	-0.00418	-0.0366	0.00735	0.0488	-0.0577
	(0.0593)	(0.181)	(0.0588)	(0.192)	(0.0592)	(0.190)	(0.0592)	(0.186)	(0.0616)	(0.162)
Observations	304	110	304	110	304	110	304	110	304	110
R^2	0.021	0.050	0.002	0.040	0.026	0.002	0.016	0.016	0.046	0.009

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.16: Impact of return on social capital — part 1

	Avg SC			Trust			Bonding SC		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	A	B	B:IV	A	B	B:IV	A	B	B:IV
Return	-0.322*	0.835*	0.606	-0.0969	0.737	0.512	-0.320*	-0.264	-1.001
	(0.193)	(0.438)	(0.612)	(0.190)	(0.473)	(0.674)	(0.168)	(0.390)	(0.663)
Respondent is male	0.185	-0.0294	-0.0237	0.0454	0.0458	0.0514	-0.0254	0.0172	0.0356
	(0.135)	(0.276)	(0.262)	(0.137)	(0.297)	(0.282)	(0.136)	(0.294)	(0.278)
Age of respondent	-0.000562	0.0138*	0.0136*	-0.00404	0.0193**	0.0191**	0.000660	-0.00671	-0.00714
	(0.00564)	(0.00817)	(0.00772)	(0.00640)	(0.00876)	(0.00825)	(0.00583)	(0.00960)	(0.00912)

Respondent is literate	0.00261	0.138	0.169	0.0393	-0.223	-0.192	-0.150	0.321	0.421
	(0.145)	(0.702)	(0.692)	(0.150)	(0.835)	(0.816)	(0.171)	(0.404)	(0.438)
Household is nuclear	-0.254	-0.172	-0.197	-0.250	-0.224	-0.249	0.0345	0.140	0.0592
	(0.156)	(0.218)	(0.214)	(0.170)	(0.243)	(0.241)	(0.158)	(0.289)	(0.279)
Age of oldest household member	0.00491	-0.00383	-0.00343	0.00585	-0.0108	-0.0104	0.00252	0.00904	0.0103
	(0.00503)	(0.0104)	(0.00980)	(0.00590)	(0.0109)	(0.0102)	(0.00528)	(0.0115)	(0.0108)
Household sex ratio	0.142**	-0.0900	-0.0873	0.142*	-0.141	-0.138	0.111*	0.0136	0.0222
	(0.0686)	(0.0759)	(0.0728)	(0.0781)	(0.0892)	(0.0855)	(0.0612)	(0.0585)	(0.0574)
Index of household assets	0.226***	0.00152	0.00801	0.0665	-0.0851	-0.0787	0.201**	0.138	0.159
	(0.0740)	(0.0915)	(0.0838)	(0.0781)	(0.100)	(0.0926)	(0.0791)	(0.133)	(0.129)
Household monthly consumption	0.000102	-0.000165	-0.000180	-0.00000188	-0.000150	-0.000166	0.0000306	-0.000266**	-0.000317***
	(0.0000862)	(0.000127)	(0.000113)	(0.0000898)	(0.000158)	(0.000144)	(0.000115)	(0.000107)	(0.000119)
Household stayed with friends or fam	0.0439	0.500**	0.479**	0.0459	0.508**	0.488**	0.0429	-0.617***	-0.684***
	(0.113)	(0.211)	(0.203)	(0.116)	(0.225)	(0.215)	(0.111)	(0.209)	(0.209)
Number of NBCers living in community	0.000662*	-0.00132	-0.000729	0.000756**	-0.00103	-0.000456	-0.000938***	-0.000479	0.00142
	(0.000343)	(0.00139)	(0.00181)	(0.000377)	(0.00149)	(0.00197)	(0.000356)	(0.00132)	(0.00189)
Constant	-0.552	-0.249	-0.281	-0.416	0.287	0.256	0.141	0.199	0.0963
	(0.394)	(0.746)	(0.724)	(0.405)	(0.827)	(0.802)	(0.422)	(0.782)	(0.708)
Observations	298	107	107	298	107	107	298	107	107
R^2	0.144	0.163	0.160	0.061	0.181	0.179	0.120	0.150	0.116

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.17: Impact of return on social capital — part 2

	Non-institutional SC			Weak SC		
	(1)	(2)	(3)	(4)	(5)	(6)
	A	B	B:IV	A	B	B:IV
Return	-0.343**	0.709**	0.751*	-0.609***	0.119	0.895
	(0.169)	(0.344)	(0.433)	(0.175)	(0.265)	(0.554)
Respondent is male	0.183	-0.0527	-0.0538	0.414***	-0.0193	-0.0387
	(0.155)	(0.289)	(0.273)	(0.146)	(0.243)	(0.234)
Age of respondent	0.00534	0.000112	0.000136	0.00349	-0.00333	-0.00288
	(0.00677)	(0.00875)	(0.00825)	(0.00684)	(0.0106)	(0.0100)
Respondent is literate	-0.119	0.463	0.458	0.263	0.0565	-0.0484
	(0.181)	(0.371)	(0.347)	(0.191)	(0.241)	(0.312)
Household is nuclear	-0.0276	-0.257	-0.253	-0.0348	0.237	0.322
	(0.199)	(0.349)	(0.329)	(0.172)	(0.289)	(0.278)
Age of oldest household member	-0.000662	-0.00221	-0.00229	-0.000725	0.00633	0.00497
	(0.00571)	(0.0111)	(0.0105)	(0.00630)	(0.0121)	(0.0115)
Household sex ratio	-0.0286	0.0184	0.0179	-0.0512	0.0471	0.0380
	(0.0721)	(0.0655)	(0.0623)	(0.0616)	(0.0515)	(0.0515)
Index of household assets	0.105	0.255**	0.254**	0.404***	-0.102	-0.124
	(0.0785)	(0.117)	(0.112)	(0.0767)	(0.0983)	(0.0986)
Household monthly consumption	0.000256***	0.000125	0.000128	-0.0000489	0.0000933	0.000147
	(0.0000822)	(0.000144)	(0.000138)	(0.000126)	(0.000128)	(0.000146)
Household stayed with friends or fam	0.105	0.572***	0.576***	-0.108	0.263	0.333*

	(0.120)	(0.216)	(0.210)	(0.115)	(0.198)	(0.198)
Number of NBCers living in community	0.000472	-0.000707	-0.000814	0.000536	0.000475	-0.00152
	(0.000420)	(0.00104)	(0.00114)	(0.000358)	(0.000899)	(0.00154)
Constant	-0.531	-0.783	-0.777	-0.336	-0.854	-0.746
	(0.457)	(0.736)	(0.689)	(0.419)	(0.645)	(0.664)
Observations	298	107	107	298	107	107
R^2	0.072	0.189	0.189	0.206	0.058	0.005

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.18: Impact of return on social capital including return of family and friends

	Avg SC		Trust		Bonding SC		Non–institutional SC		Weak SC	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	A	B:IV	A	B:IV	A	B:IV	A	B:IV	A	B:IV
Return	-0.325*	0.361	-0.0805	0.309	-0.344**	-1.052	-0.359**	0.560	-0.625***	1.122*
	(0.196)	(0.733)	(0.192)	(0.797)	(0.167)	(0.736)	(0.171)	(0.484)	(0.174)	(0.660)
Friends & fam returned	0.0841	0.403**	0.0537	0.295	-0.118	0.620***	0.127	0.100	0.119	-0.0440
	(0.123)	(0.195)	(0.124)	(0.205)	(0.112)	(0.218)	(0.128)	(0.202)	(0.119)	(0.204)
Respondent is male	0.204	0.0301	0.0733	0.102	-0.0696	0.161	0.187	-0.115	0.414***	-0.0140
	(0.140)	(0.262)	(0.140)	(0.284)	(0.134)	(0.275)	(0.159)	(0.274)	(0.147)	(0.233)
Age of respondent	-0.000380	0.0101	-0.00332	0.0161**	-0.00112	-0.0143	0.00602	0.00216	0.00315	-0.00369
	(0.00595)	(0.00729)	(0.00678)	(0.00805)	(0.00579)	(0.00945)	(0.00703)	(0.00831)	(0.00711)	(0.00987)
Respondent is literate	0.0312	-0.0179	0.0529	-0.333	-0.0544	0.0708	-0.0611	0.474	0.197	-0.0692
	(0.152)	(0.717)	(0.157)	(0.843)	(0.169)	(0.433)	(0.187)	(0.375)	(0.190)	(0.361)

Household is nuclear	-0.295*	-0.153	-0.273	-0.219	0.0357	0.0914	-0.0758	-0.203	-0.0801	0.293
	(0.165)	(0.198)	(0.180)	(0.226)	(0.158)	(0.289)	(0.210)	(0.326)	(0.177)	(0.272)
Age of oldest household member	0.00484	-0.00246	0.00494	-0.00964	0.00520	0.00796	-0.000263	0.000454	-0.000454	0.00243
	(0.00525)	(0.0101)	(0.00616)	(0.0103)	(0.00528)	(0.0107)	(0.00591)	(0.0106)	(0.00653)	(0.0116)
Household sex ratio	0.140*	-0.0727	0.130	-0.127	0.122**	0.0485	-0.0182	0.0184	-0.0338	0.0388
	(0.0713)	(0.0762)	(0.0803)	(0.0868)	(0.0619)	(0.0578)	(0.0733)	(0.0643)	(0.0623)	(0.0540)
Index of household assets	0.213***	0.0255	0.0646	-0.0634	0.213***	0.164	0.0848	0.264**	0.380***	-0.139
	(0.0779)	(0.0810)	(0.0810)	(0.0935)	(0.0794)	(0.117)	(0.0791)	(0.113)	(0.0788)	(0.103)
Household monthly consumption	0.0000987	-0.000153	0.00000348	-0.000141	0.0000275	-0.000248**	0.000246***	0.0000970	-0.0000668	0.000162
	(0.0000877)	(0.000109)	(0.0000924)	(0.000138)	(0.000111)	(0.000105)	(0.0000836)	(0.000131)	(0.000123)	(0.000153)
Household stayed with friends or fam	0.0534	0.492**	0.0483	0.511**	0.0792	-0.686***	0.110	0.538**	-0.117	0.322
	(0.117)	(0.198)	(0.120)	(0.211)	(0.111)	(0.207)	(0.123)	(0.209)	(0.117)	(0.204)
Number of NBCers living in community	0.000664*	0.0000223	0.000728*	0.000174	-0.000886**	0.00165	0.000494	-0.000308	0.000548	-0.00216
	(0.000352)	(0.00218)	(0.000387)	(0.00231)	(0.000362)	(0.00219)	(0.000427)	(0.00128)	(0.000368)	(0.00184)
Constant	-0.580	-0.386	-0.414	0.170	0.0180	0.314	-0.639	-1.035	-0.271	-0.496
	(0.412)	(0.763)	(0.416)	(0.846)	(0.419)	(0.722)	(0.469)	(0.711)	(0.423)	(0.692)
Observations	290	105	290	105	290	105	290	105	290	105
R^2	0.148	0.183	0.058	0.187	0.132	0.175	0.076	0.185	0.204	.

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.19: Effect of timing of return on social capital in section B

	(1) Avg SC	(2) Trust	(3) Bonding SC	(4) Non–institutional SC	(5) Weak SC
Return within 1 year	1.033**	0.893*	-0.295	0.811**	0.433
	(0.454)	(0.489)	(0.422)	(0.365)	(0.299)
Return within 2 years	0.722	0.560	-0.324	1.011***	-0.0107
	(0.467)	(0.503)	(0.426)	(0.351)	(0.283)
Return within 3 years	0.601	0.696	-0.101	0.00570	-0.331
	(0.480)	(0.539)	(0.424)	(0.399)	(0.328)
Respondent is male	-0.00432	0.0705	0.0176	-0.0597	0.0177
	(0.284)	(0.309)	(0.293)	(0.256)	(0.242)
Age of respondent	0.0131	0.0197**	-0.00581	-0.00392	-0.00480
	(0.00847)	(0.00872)	(0.00925)	(0.00880)	(0.00969)
Respondent is literate	0.181	-0.220	0.286	0.615	0.143
	(0.734)	(0.887)	(0.416)	(0.402)	(0.244)
Household is nuclear	-0.145	-0.200	0.138	-0.254	0.278
	(0.221)	(0.251)	(0.294)	(0.351)	(0.265)
Age of oldest household member	-0.00387	-0.0113	0.00863	-0.000325	0.00653
	(0.0112)	(0.0115)	(0.0113)	(0.0104)	(0.0107)
Household sex ratio	-0.101	-0.157*	0.00890	0.0423	0.0332
	(0.0745)	(0.0889)	(0.0602)	(0.0729)	(0.0524)
Index of household assets	-0.000890	-0.0738	0.150	0.200**	-0.113
	(0.0938)	(0.0997)	(0.141)	(0.0947)	(0.0888)
Household monthly consumption	-0.000143	-0.000126	-0.000263**	0.000106	0.000124
	(0.000132)	(0.000161)	(0.000106)	(0.000124)	(0.000111)
Household stayed with friends or fam	0.501**	0.516**	-0.611***	0.545**	0.261
	(0.212)	(0.227)	(0.211)	(0.215)	(0.189)
Number of NBCers living in community	-0.00129	-0.00100	-0.000469	-0.000755	0.000504
	(0.00140)	(0.00150)	(0.00133)	(0.00102)	(0.000901)
Constant	-0.312	0.237	0.209	-0.816	-0.954
	(0.783)	(0.879)	(0.786)	(0.724)	(0.589)
Observations	107	107	107	107	107
R^2	0.187	0.195	0.155	0.283	0.148

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.20: Impact of return on social capital including furniture as proxy for settling down

	Avg SC		Trust		Bonding SC		Non–institutional SC		Weak SC	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	A	B:IV	A	B:IV	A	B:IV	A	B:IV	A	B:IV
Return	-0.226	0.661	-0.0792	0.577	-0.248	-1.028	-0.161	0.720	-0.575***	0.956*
	(0.210)	(0.625)	(0.211)	(0.693)	(0.183)	(0.669)	(0.193)	(0.441)	(0.184)	(0.545)
Furniture sufficient for hhd	0.176	-0.342	0.0326	-0.403	0.134	0.163	0.334**	0.196	0.0618	-0.375
	(0.156)	(0.279)	(0.156)	(0.284)	(0.141)	(0.307)	(0.156)	(0.248)	(0.140)	(0.247)
Respondent is male	0.190	-0.0186	0.0463	0.0574	-0.0215	0.0332	0.193	-0.0567	0.415***	-0.0331
	(0.135)	(0.260)	(0.137)	(0.282)	(0.136)	(0.278)	(0.154)	(0.276)	(0.146)	(0.226)
Age of respondent	0.000369	0.0147*	-0.00387	0.0204**	0.00137	-0.00766	0.00710	-0.000482	0.00381	-0.00170
	(0.00565)	(0.00776)	(0.00640)	(0.00816)	(0.00570)	(0.00919)	(0.00677)	(0.00819)	(0.00684)	(0.00985)
Respondent is literate	0.00985	0.229	0.0407	-0.121	-0.145	0.392	-0.105	0.423	0.265	0.0182
	(0.146)	(0.647)	(0.151)	(0.760)	(0.173)	(0.434)	(0.175)	(0.342)	(0.191)	(0.297)
Household is nuclear	-0.279*	-0.238	-0.255	-0.296	0.0154	0.0784	-0.0753	-0.229	-0.0436	0.278
	(0.159)	(0.201)	(0.172)	(0.226)	(0.162)	(0.279)	(0.205)	(0.329)	(0.171)	(0.278)
Age of oldest household member	0.00399	-0.00456	0.00568	-0.0117	0.00182	0.0109	-0.00240	-0.00164	-0.00105	0.00373
	(0.00507)	(0.00965)	(0.00595)	(0.00985)	(0.00519)	(0.0110)	(0.00576)	(0.0104)	(0.00631)	(0.0114)
Household sex ratio	0.148**	-0.0968	0.143*	-0.149*	0.116*	0.0268	-0.0164	0.0234	-0.0489	0.0275
	(0.0687)	(0.0677)	(0.0780)	(0.0782)	(0.0618)	(0.0599)	(0.0694)	(0.0602)	(0.0614)	(0.0518)
Index of household assets	0.195**	0.0329	0.0609	-0.0494	0.178**	0.147	0.0476	0.239**	0.393***	-0.0966
	(0.0820)	(0.0862)	(0.0852)	(0.0950)	(0.0865)	(0.129)	(0.0828)	(0.112)	(0.0810)	(0.0973)
Household monthly consumption	0.000101	-0.000190*	-0.00000199	-0.000177	0.0000302	-0.000313***	0.000255***	0.000133	-0.0000491	0.000137

	(0.0000868)	(0.000112)	(0.0000901)	(0.000148)	(0.000115)	(0.000117)	(0.0000829)	(0.000141)	(0.000125)	(0.000137)
Household stayed with friends or fam	0.0320	0.481**	0.0436	0.491**	0.0338	-0.685***	0.0823	0.575***	-0.112	0.336*
	(0.115)	(0.200)	(0.117)	(0.210)	(0.112)	(0.209)	(0.122)	(0.208)	(0.116)	(0.195)
Number of NBCers living in community	0.000770**	-0.00101	0.000776**	-0.000789	-0.000856**	0.00155	0.000676	-0.000652	0.000574	-0.00183
	(0.000354)	(0.00189)	(0.000385)	(0.00208)	(0.000366)	(0.00194)	(0.000428)	(0.00119)	(0.000367)	(0.00154)
Constant	-0.696*	0.0549	-0.443	0.651	0.0321	-0.0640	-0.803*	-0.970	-0.386	-0.377
	(0.418)	(0.815)	(0.420)	(0.911)	(0.437)	(0.776)	(0.455)	(0.712)	(0.434)	(0.721)
Observations	298	107	298	107	298	107	298	107	298	107
R^2	0.149	0.176	0.061	0.198	0.123	0.117	0.087	0.194	0.206	0.020

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

4.13 Appendix D: Tables - Robustness checks

Table 4.21: Weights of social capital variables from factor analysis, excluding connections with UNRWA and camp popular committee

Variable	**Trust**	**Non–institutional SC**	**Bonding SC**
# of relatives	0.0776	**0.3837**	-0.1048
Friends in community	0.0779	**0.3702**	-0.0903
Friends outside community	**0.0006**	0.2425	-0.1531
Wedding invitations	0.0531	**0.4035**	-0.0526
Wedding invitees	0.0733	**0.3777**	-0.0248
Socialising in last week	0.0034	**0.4596**	0.0368
Paying condolences	0.1324	0.2084	-0.0590
Belong to group	-0.0124	0.0754	0.0704
Community is honest	0.2989	0.0096	**0.2778**
Community lies	-0.1466	-0.0202	0.0850
Purse would be returned	**0.3834**	0.1994	0.1487
Trust: Local forces	**0.6815**	**-0.3709**	0.1338
Trust: Lebanese army	**0.5936**	0.0694	**-0.571**
Trust: Community leaders	**0.6410**	**-0.3871**	0.0850
Trust: Popular committee	**0.6588**	**-0.3560**	0.106
Trust: Religious leaders	**0.4893**	-0.08850	0.1354
Trust: Neighbours	**0.4893**	**0.3757**	**0.3427**
Trust: Palestinians from NBC	**0.3867**	**0.2774**	**0.3907**
Trust: Palestinians	**0.4232**	**0.2618**	**0.3721**
Trust: Lebanese civilians	**0.5557**	0.0875	-0.1251
Trust: Lebanese ISF	**0.6308**	0.0697	**-0.5735**
Trust: NGO workers	**0.5266**	0.1045	-0.1226
Trust: UNRWA workers	**0.4631**	-0.0074	-0.0114

Source: Author's dataset. Weights that are higher than average are listed in bold font.

Table 4.22: Weights of social capital variables from factor analysis, excluding trust of local forces and the Lebanese army

Variable	**Trust**	**Non–institutional SC**	**Weak SC**
# of relatives	0.1007	**0.3926**	-0.1511
Friends in community	0.0745	**0.4143**	-0.0970
Friends outside community	-0.0080	**0.2909**	-0.0465
Contact with UNRWA	0.1464	-0.1237	**0.5099**
Contact with committee	0.2122	-0.0604	**0.5788**
Wedding invitations	0.0760	**0.4469**	**0.1983**
Wedding invitees	0.0909	**0.4263**	0.1166
Socialising in last week	0.036	**0.4883**	0.0202
Paying condolences	0.1252	**0.2307**	**0.2263**
Belong to group	0.0292	0.0491	**0.4227**
Community is honest	**0.3224**	-0.0543	**-0.2687**
Community lies	-0.1287	0.0042	**0.1092**
Purse would be returned	**0.4092**	0.1528	**-0.2608**
Trust: Community leaders	**0.5617**	**-0.3524**	0.1092
Trust: Popular committee	**0.6116**	**-0.3366**	0.0714
Trust: Religious leaders	**0.5018**	-0.1559	-0.0559

Trust: Neighbours	**0.5141**	**0.2868**	0.0544
Trust: Palestinians from NBC	**0.4778**	0.1932	0.1251
Trust: Palestinians	**0.5236**	0.1375	0.1294
Trust: Lebanese civilians	**0.5508**	-0.0162	-0.1209
Trust: Lebanese ISF	**0.4850**	-0.0152	**-0.1850**
Trust: NGO workers	**0.5300**	0.0432	-0.0853
Trust: UNRWA workers	**0.4722**	-0.0814	-0.1177

Source: Author's dataset. Weights that are higher than average are listed in bold font.

Table 4.23: Impact of return on social capital excluding trust in Lebanese army and local forces

	Avg SC		Trust		Non–institutional SC		Weak SC	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B:IV	A	B:IV	A	B:IV	A	B:IV
Return	-0.294	0.0835	-0.0815	-0.253	-0.429***	0.641*	-0.612***	-0.227
	(0.188)	(0.397)	(0.176)	(0.418)	(0.123)	(0.358)	(0.122)	(0.452)
Trust in local forces	0.391***	0.475***	0.529***	0.622***	-0.407***	-0.354***	0.216***	0.118
	(0.0555)	(0.0709)	(0.0502)	(0.0644)	(0.0570)	(0.108)	(0.0694)	(0.0767)
Trust in Lebanese army	0.243***	0.349***	0.325***	0.398***	0.00147	0.0383	-0.241***	-0.264***
	(0.0651)	(0.0670)	(0.0563)	(0.0698)	(0.0658)	(0.0981)	(0.0693)	(0.0626)
Respondent is male	0.131	-0.0616	-0.0663	0.0439	0.207	-0.151	0.282**	0.152
	(0.118)	(0.209)	(0.107)	(0.176)	(0.136)	(0.292)	(0.133)	(0.248)
Age of respondent	0.00324	0.00166	0.000786	0.00557	0.00184	-0.00295	0.00515	-0.000717
	(0.00496)	(0.00744)	(0.00472)	(0.00656)	(0.00597)	(0.00846)	(0.00572)	(0.00961)
Respondent is literate	-0.101	0.465	-0.122	0.169	-0.0437	0.606*	0.0170	-0.0624
	(0.135)	(0.426)	(0.134)	(0.389)	(0.171)	(0.366)	(0.202)	(0.234)
Household is nuclear	-0.191	-0.181	-0.173	-0.316**	0.0316	0.0316	-0.0750	0.0290
	(0.146)	(0.188)	(0.122)	(0.138)	(0.172)	(0.287)	(0.158)	(0.202)
Age of oldest household member	-0.0000165	0.00747	-0.000502	0.00311	0.00279	-0.00184	0.00173	0.00893
	(0.00454)	(0.00835)	(0.00454)	(0.00745)	(0.00502)	(0.0103)	(0.00470)	(0.0101)
Household sex ratio	0.0850	-0.0335	0.0890**	-0.0900*	-0.000665	0.0502	0.0823	-0.00651
	(0.0524)	(0.0518)	(0.0437)	(0.0539)	(0.0712)	(0.0647)	(0.0694)	(0.0528)
Index of household assets	0.204***	0.177**	0.00735	0.158**	0.219***	0.182	0.389***	0.0394

	(0.0599)	(0.0824)	(0.0532)	(0.0617)	(0.0676)	(0.118)	(0.0763)	(0.0692)
Household monthly consumption	0.000142*	-0.000222***	0.0000482	-0.000253***	0.000278***	0.0000700	-0.000147*	-0.000152**
	(0.0000752)	(0.0000748)	(0.0000764)	(0.0000951)	(0.0000734)	(0.000125)	(0.0000807)	(0.0000693)
Household stayed with friends or fam	0.0366	0.0378	0.0590	-0.0976	0.113	0.476**	-0.0791	-0.310*
	(0.101)	(0.165)	(0.0933)	(0.143)	(0.106)	(0.217)	(0.107)	(0.159)
Number of NBCers living in community	0.0000761	-0.000261	-0.000133	0.000404	0.000659*	-0.000505	-0.000666*	-0.000204
	(0.000281)	(0.00115)	(0.000258)	(0.00121)	(0.000367)	(0.000891)	(0.000394)	(0.00130)
Constant	-0.181	-0.365	0.117	0.244	-0.789*	-0.963*	0.0719	0.0619
	(0.347)	(0.511)	(0.296)	(0.501)	(0.424)	(0.563)	(0.422)	(0.622)
Observations	298	107	298	107	298	107	298	107
R^2	0.376	0.497	0.475	0.644	0.281	0.265	0.284	0.217

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.24: Impact of return on social capital excluding connections with UNRWA and camp popular committee

	Avg SC		Trust		Non–institutional SC		Bonding SC	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B:IV	A	B:IV	A	B:IV	A	B:IV
Return	-0.259	0.720	-0.0357	0.584	-0.477***	0.409	0.176	-1.128*
	(0.198)	(0.643)	(0.180)	(0.661)	(0.146)	(0.334)	(0.173)	(0.643)
Contact with UNRWA	-0.0520	0.0246	0.0162	0.0933	-0.196***	-0.106	0.0985*	0.0959
	(0.0620)	(0.0982)	(0.0597)	(0.101)	(0.0563)	(0.0828)	(0.0519)	(0.0811)
Contact with popular committee	0.175**	0.0915	0.138**	0.0996	0.00135	-0.0425	0.0392	0.0965
	(0.0682)	(0.104)	(0.0688)	(0.102)	(0.0508)	(0.0957)	(0.0460)	(0.0737)

Respondent is male	0.125	-0.0496	-0.0000641	0.0344	0.198	-0.0374	-0.284**	0.00925
	(0.135)	(0.288)	(0.128)	(0.274)	(0.128)	(0.232)	(0.118)	(0.261)
Age of respondent	-0.00150	0.0162**	-0.00436	0.0192**	0.00537	-0.00186	-0.00341	-0.00217
	(0.00573)	(0.00812)	(0.00597)	(0.00788)	(0.00551)	(0.00723)	(0.00571)	(0.00906)
Respondent is literate	-0.0438	0.159	0.00985	-0.206	-0.0905	0.474	-0.237	0.295
	(0.145)	(0.611)	(0.142)	(0.703)	(0.155)	(0.319)	(0.154)	(0.347)
Household is nuclear	-0.261	-0.293	-0.232	-0.313	-0.0980	-0.107	0.0954	-0.156
	(0.165)	(0.216)	(0.165)	(0.218)	(0.159)	(0.280)	(0.146)	(0.282)
Age of oldest household member	0.00468	-0.00834	0.00518	-0.0133	-0.000263	0.00263	0.00228	0.000660
	(0.00514)	(0.0107)	(0.00554)	(0.00971)	(0.00465)	(0.00874)	(0.00545)	(0.0115)
Household sex ratio	0.116*	-0.0848	0.115*	-0.129*	0.00894	0.0239	0.0883*	0.00624
	(0.0648)	(0.0692)	(0.0690)	(0.0742)	(0.0577)	(0.0501)	(0.0470)	(0.0560)
Index of household assets	0.132*	0.0265	-0.00460	-0.0690	0.234***	0.244**	-0.141**	0.133
	(0.0732)	(0.0879)	(0.0751)	(0.0909)	(0.0659)	(0.107)	(0.0713)	(0.116)
Household monthly consumption	0.000155	-0.0000920	0.0000295	-0.0000840	0.000198***	0.00000842	0.0000554	-0.000228
	(0.0000942)	(0.000113)	(0.0000889)	(0.000132)	(0.0000694)	(0.000111)	(0.000109)	(0.000144)
Household stayed with friends or fam	0.0453	0.654***	0.0450	0.586***	0.0882	0.304*	0.0712	-0.580***
	(0.114)	(0.186)	(0.110)	(0.189)	(0.0982)	(0.177)	(0.0989)	(0.201)
Number of NBCers living in community	0.000752**	-0.000552	0.000771**	-0.000304	0.000122	-0.000688	-0.000781**	0.00220
	(0.000360)	(0.00187)	(0.000361)	(0.00189)	(0.000332)	(0.000786)	(0.000302)	(0.00175)
Constant	-0.508	-0.383	-0.364	0.187	-0.346	-0.640	0.267	0.351
	(0.377)	(0.674)	(0.370)	(0.713)	(0.369)	(0.543)	(0.360)	(0.637)
Observations	298	107	298	107	298	107	298	107
R^2	0.137	0.200	0.081	0.213	0.160	0.189	0.074	0.092

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.25: Reasons for not wanting to return home. Source: Author's dataset.

	Frequency	Percentage
I am now close to family	2	12.5
The house that was rebuilt for us is too small	2	12.5
Someone from our household married into this community	3	18.75
We are happier here	4	25
We have settled down here	3	18.75
Someone from our household found work here	2	12.5
Total	16	100

Table 4.26: Impact of return on social capital excluding those who do not want to return

	Avg SC		Trust		Bonding SC		Non–institutional SC		Weak SC	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	A	B:IV	A	B:IV	A	B:IV	A	B:IV	A	B:IV
Return	-0.322*	0.442	-0.0948	0.328	-0.325*	-0.849	-0.345**	0.706*	-0.615***	0.892
	(0.194)	(0.580)	(0.191)	(0.634)	(0.166)	(0.631)	(0.171)	(0.424)	(0.174)	(0.549)
Respondent is male	0.186	0.0336	0.0511	0.115	-0.0664	0.00538	0.196	-0.0406	0.411***	-0.0418
	(0.137)	(0.261)	(0.138)	(0.280)	(0.133)	(0.281)	(0.157)	(0.277)	(0.148)	(0.237)
Age of respondent	-0.000833	0.0131*	-0.00493	0.0186**	0.00214	-0.00685	0.00647	0.0000227	0.00247	-0.00286
	(0.00580)	(0.00762)	(0.00654)	(0.00818)	(0.00567)	(0.00915)	(0.00688)	(0.00825)	(0.00692)	(0.0100)
Respondent is literate	-0.00854	0.167	0.0113	-0.193	-0.142	0.406	-0.0839	0.459	0.261	-0.0454
	(0.150)	(0.700)	(0.153)	(0.824)	(0.176)	(0.428)	(0.183)	(0.351)	(0.200)	(0.313)

Household is nuclear	-0.241	-0.222	-0.232	-0.276	0.0552	0.0693	-0.0459	-0.258	-0.0400	0.324
	(0.157)	(0.213)	(0.171)	(0.238)	(0.156)	(0.278)	(0.200)	(0.330)	(0.172)	(0.278)
Age of oldest household member	0.00512	-0.00275	0.00658	-0.00965	0.00130	0.00979	-0.00137	-0.00211	-0.000454	0.00496
	(0.00512)	(0.00983)	(0.00596)	(0.0102)	(0.00518)	(0.0108)	(0.00575)	(0.0105)	(0.00637)	(0.0115)
Household sex ratio	0.148**	-0.112	0.150*	-0.166*	0.115*	0.0415	-0.0339	0.0115	-0.0530	0.0382
	(0.0691)	(0.0765)	(0.0787)	(0.0908)	(0.0615)	(0.0581)	(0.0726)	(0.0643)	(0.0627)	(0.0536)
Index of household assets	0.226***	-0.00707	0.0619	-0.0952	0.216***	0.164	0.116	0.251**	0.396***	-0.123
	(0.0747)	(0.0831)	(0.0789)	(0.0933)	(0.0792)	(0.130)	(0.0791)	(0.112)	(0.0779)	(0.0997)
Household monthly consumption	0.000116	-0.000172	0.00000182	-0.000157	0.000108	-0.000310***	0.000261***	0.000128	-0.000102	0.000145
	(0.0000904)	(0.000112)	(0.0000948)	(0.000143)	(0.0000917)	(0.000118)	(0.0000866)	(0.000140)	(0.000130)	(0.000148)
Household stayed with friends or fam	0.0746	0.466**	0.0676	0.474**	0.0966	-0.679***	0.120	0.573***	-0.129	0.334*
	(0.115)	(0.203)	(0.118)	(0.215)	(0.109)	(0.206)	(0.123)	(0.209)	(0.117)	(0.198)
Number of NBCers living in community	0.000591*	0.0000213	0.000660*	0.000373	-0.00102***	0.000953	0.000569	-0.000634	0.000478	-0.00155
	(0.000351)	(0.00168)	(0.000388)	(0.00181)	(0.000370)	(0.00181)	(0.000443)	(0.00112)	(0.000371)	(0.00156)
Constant	-0.563	-0.395	-0.399	0.131	0.0658	0.129	-0.602	-0.800	-0.221	-0.734
	(0.397)	(0.728)	(0.407)	(0.811)	(0.417)	(0.719)	(0.464)	(0.694)	(0.422)	(0.674)
Observations	290	105	290	105	290	105	290	105	290	105
R^2	0.149	0.166	0.061	0.189	0.151	0.133	0.074	0.188	0.203	0.004

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.27: Weights of social capital variables (excluding trust) from factor analysis

Variable	**Social connections and interactions**
# of relatives	**0.3294**
Friends in community	**0.4832**
Friends outside community	**0.3858**
Contact with UNRWA	-0.0043
Contact with committee	0.0830
Wedding invitations	**0.4732**
Wedding invitees	**0.4367**
Socialising in last week	**0.3724**
Paying condolences	0.285
Belong to group	0.0703

Source: Author's dataset. Weights that are higher than average are listed in bold font.

Table 4.28: Impact of return on connections and interactions in sections A and B

	(1) Section A	(2) Section B (using IV)
Return	-0.389***	0.401
	(0.137)	(0.377)
Respondent is male	0.315***	-0.00970
	(0.118)	(0.240)
Age of respondent	-0.00244	0.00157
	(0.00533)	(0.00879)
Respondent is literate	0.00264	0.658**
	(0.134)	(0.319)
Household is nuclear	-0.0576	-0.00422
	(0.164)	(0.296)
Age of oldest household member	0.00228	-0.00656
	(0.00429)	(0.00988)
Household sex ratio	-0.0531	0.105
	(0.0598)	(0.0654)
Index of household assets	0.283***	0.0746
	(0.0605)	(0.1000)
Household monthly consumption	0.000233***	0.0000576
	(0.0000797)	(0.000115)
Household stayed with friends or fam	0.0416	0.377**
	(0.0951)	(0.191)
Number of NBCers living in community	0.000647**	0.0000560
	(0.000320)	(0.00108)
Constant	-0.432	-0.885

	(0.357)	(0.603)
Observations	399	129
R^2	0.150	0.112

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.29: Impact of return on social capital on full sample - OLS

	(1)	(2)	(3)	(4)	(5)
	Avg SC	Trust	Bonding SC	Non-institutional SC	Weak SC
Early return	0.430*	0.327	0.0659	0.394*	0.0128
	(0.256)	(0.265)	(0.241)	(0.212)	(0.207)
Late return	-0.387**	-0.153	-0.310*	-0.348**	-0.670***
	(0.188)	(0.184)	(0.171)	(0.169)	(0.172)
Respondent is male	0.111	0.0187	0.0211	0.128	0.246**
	(0.121)	(0.122)	(0.118)	(0.128)	(0.123)
Age of respondent	0.00343	0.00226	-0.00240	0.00401	0.00336
	(0.00491)	(0.00542)	(0.00508)	(0.00526)	(0.00558)
Respondent is literate	0.0733	0.0692	-0.109	-0.0708	0.281*
	(0.159)	(0.178)	(0.155)	(0.165)	(0.169)
Household is nuclear	-0.270**	-0.293**	0.0900	-0.0972	0.0309
	(0.134)	(0.142)	(0.145)	(0.176)	(0.154)
Age of oldest household member	0.000942	0.000499	0.00357	-0.000792	-0.000936
	(0.00469)	(0.00524)	(0.00490)	(0.00499)	(0.00550)
Household sex ratio	0.0801	0.0578	0.0558	-0.00501	0.0242
	(0.0515)	(0.0567)	(0.0454)	(0.0490)	(0.0435)
Index of household assets	0.153**	0.0228	0.203***	0.144**	0.209***
	(0.0616)	(0.0623)	(0.0687)	(0.0618)	(0.0640)
Household monthly consumption	0.0000325	-0.0000380	-0.0000574	0.000203***	0.0000160
	(0.0000669)	(0.0000729)	(0.0000816)	(0.0000698)	(0.0000921)
Household stayed with friends or fam	0.152	0.147	-0.132	0.231**	0.00143
	(0.0994)	(0.102)	(0.0983)	(0.103)	(0.0998)
Number of NBCers living in community	0.000407	0.000602*	-0.000921***	0.000314	0.000317
	(0.000333)	(0.000359)	(0.000348)	(0.000381)	(0.000342)
Household from section B	-0.196	-0.0624	-0.284	-0.163	-0.103
	(0.221)	(0.228)	(0.211)	(0.164)	(0.168)
Constant	-0.396	-0.268	0.350	-0.433	-0.507
	(0.325)	(0.343)	(0.371)	(0.386)	(0.358)
Observations	405	405	405	405	405
R^2	0.103	0.053	0.098	0.095	0.112

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

4.14 Appendix E: Variables from Questionnaire

Table 4.30: Description of variables used in chapter

Variable	Question from questionnaire/Description
Social Capital (In some cases these variables were recoded so that higher values indicated higher social capital)	
Number of relatives	Without considering those who are living with you in your house, how many of your relatives live in this community?
Friends in community	How many friends do you have living in this community? (By friends we mean those that you see at least once a month)
Friends outside community	How many friends do you have living outside this community? (By friends we mean those that you see at least once a month)
Contact with UNRWA	Do you or any member of your household have a contact with an UNRWA employee who could help you out in the case of an emergency or if needed?
Contact with committee	Do you or any member of your household have a contact with a member of the popular committee who could help you out in the case of an emergency or if needed?
Wedding invitations	If a member of your family were preparing for a wedding today, how many persons would be invited to the ceremony?
Wedding invitees	Over the last year, how many weddings have you attended?
Socialising in last week	Over the last week, how many times have you socialised with others (to have dinner, drink coffee/tea, play cards or backgammon, or other social visits)?
Paying condolences	Over the last year, how many times have you paid condolences?
Belong to group	Do you or any member of your family belong to any of the following groups or organisations? Co–op; Work Union; Work syndicate; Micro–finance group; Waste or water management group; Neighbourhood association; Civil society organisation; School committee; Sport's group; Youth group; Camp popular committee; NGO; Religious group; Cultural group (theatre, reading); Political party or group; Women's group; Parent's group; Health group; Camp association; Local forces
On a scale of one to four, one being completely agree and 4 being completely disagree, how much do you agree with the following sentences?	
Community is honest	Most people in this community are honest and can be trusted
Community lies	Most people in this community lie and try to take advantage of you
Purse would be returned	If you dropped your purse or wallet in your neighbourhood, it will be returned to you
On a scale of one to four, one being completely trust and 4 being completely distrust, how much do you trust the following?	
Trust: Community leaders	Community leaders
Trust: Committee leaders	Committee leaders
Trust: Local forces	Local forces
Trust: Religious leaders	Religious leaders
Trust: Neighbours	Neighbours

Trust: Palestinians from NBC	Palestinians from Nahr el–Bared camp
Trust: Palestinians	Palestinians from outside of Nahr el–Bared camp
Trust: Lebanese civilians	Lebanese civilians living in surrounding areas
Trust: Lebanese ISF	The Lebanese Internal Security Forces
Trust: Lebanese army	The Lebanese Army
Trust: NGO workers	NGO workers
Trust: UNRWA workers	UNRWA workers
Regression controls	
Sex of respondent	Taken from the household roster: What is the sex of [name]?
Age of respondent	Taken from the household roster: What is the age of [name]?
Respondent literacy	Taken from the household roster: Can [name] read or write in any language?
Household is a nuclear family	Nuclear family is defined as those consisting of the head, his/her spouse and children — or any combination of these.
Age of oldest household member	Maximum age of all household members taken from the household roster: What is [name]'s age?
Household sex ratio	Ratio of males to females in household
Index of household assets	Factor analysis is applied to a list of household assets to create an index.[6] Household assets: Car; Motor cycle; van; truck; Cellular phone; Land line; Bed; Fridge; Freezer; Oven; Microwave; Washing machine; Computer; Internet; Heater; AC; TV; Satellite; Fan; Bank accounts; Loans (negative weight); Micro credit loans (negative weight)
Household total monthly consumption (in US $)	This is the sum of expenses on rent, electricity, water, petrol, food, clothing, education, health and tobacco
Household stayed with friends or family	Selected "With friends" or "With extended family" when asked "Where did you stay during the displacement?"
Pre–war characteristics: These variables were constructed by the author to cover individuals who were alive before the war (those older than 5 years old)	
Sex	What is the sex of [name]?
Age	What is [name]'s age?
Literacy	Can the [name] read or write in any language?
Ever attended school	Has [name] ever attended school?
If yes, what is the highest level of schooling that [name] has achieved?	
Prim. school	Selected "Primary schooling"
Int. school	Selected "Intermediate school"
Sec. school	Selected "Secondary school"
University	Selected "University"
Working	Has [name] worked for cash or in kind over the last week even if for only one hour?
Sex ratio	Ratio of males to females in household
Average age	Average age of the household

[6] Weights for factor analysis can be provided

Household size	Number of household members who live and sleep under the same roof and share meals together
Dependency ratio	Ratio of working household members to non working household members
Number of children in hhd	Number of individuals below the age of 15
Number of working members in hhd	Number of working individuals in household
Other variables used in mechanisms or robustness checks	
Number of NBCers living in community	Extracted from UNRWA database of Palestinians from Nahr el–Bared and their location
Friends and family return	Have your friends and family returned to Nahr el–Bared camp? Yes all of them; Yes some of them; No
Furniture	Do you have enough furniture in their house for family to sit and have dinner together?
Like to return	Would you like to return home to Nahr el–Bared if you had the opportunity?

Chapter 5

The labour market returns to returning home

Abstract

This chapter studies the effect of returning home on labour market outcomes. Theoretically the effect of return is ambiguous, depending on changes in both the demand and supply of labour. I empirically study the effect of return on four labour market outcomes: participation in the labour force, working, wages and number of days worked. I analyse a dataset of individuals originally from Nahr el–Bared camp in North Lebanon, displaced within Lebanon after a war in 2007 between the Lebanese army and Fatah al–Islam. I use an instrumental variable and exploit the exogenous nature of the return process in order to estimate a causal effect of return. The results show that return increases the likelihood of working by 117 percentage points. This effect is greatest for those who have returned within two years, reaping the benefits of greater aggregate demand as the market increases. Women returnees are more likely to be working compared to the displaced, but there is no difference in employment between men who have been displaced and those who have returned. This could be because women possess skills that are adaptable in labour markets, working in cottage type industries from home, as opposed to the more specialised skills that men tend to possess.

5.1 Introduction

High employment rates and decent wages are signs of healthy economy. In fact, governments will often try to improve these indicators by creating new economic opportunities and jobs. This is a high priority in post–conflict settings and upon returning home after conflict–induced displacement. Research has shown that the unemployed and poor can be seduced by conflict and crime in the face of impoverishment and lack of opportunity (Collier and Hoeffler, 2004; Becker, 1968; Humphreys and Weinstein, 2008), an undesirable outcome when peace-building and economic reconstruction are the main concern. The economic and social benefits of increased employment and wages are also obvious, and particularly so for individuals who have experienced the traumas of war and are ready to restart their lives. We have little understanding of how labour markets can redevelop in post–conflict settings, in addition to who can benefit from starting over and who will be side–lined. Returning home after conflict–induced displacement is seen as a necessary solution to the refugee crisis, but there is insufficient evidence showing how returnees compare to the displaced in terms of employment and wages.

In this chapter I explore how the demand and supply for labour shifts upon returning home. During the initial phases of return, the pool of potential workers will be small because not all former residents have returned, thus labour supply will be lower than that in displacement markets. However, female labour supply could increase because of a sustained change in attitude towards the role of women who are more likely to find work during displacement. Labour demand could reduce because of a smaller market size and fewer economic opportunities, but demand for construction workers and unskilled labourers could increase due to a focus of the economy on these sectors. These potential shifts of labour demand and supply can affect wages and employment, but the result is a priori ambiguous. This implies the need for an empirical analysis to determine the effect of return on labour market outcomes.

This chapter supplements the analysis of chapter four of this thesis by utilising a unique and rich dataset collected by the author. To the best of my knowledge, this dataset is the first of its kind in the way that it represents both the displaced and returnees, and allows me to isolate the effect of return, rather than confounding it with the displacement effect. When considering the decision to return home, this information is critical, as a displaced household or policy maker will be interested in the added effect of returning home compared to remaining displaced, rather than the effect of the entire displacement and return process.

In order to empirically estimate a causal return effect, I use an individual level dataset that I collected in Nahr el–Bared camp following the 2007 war and subsequent displacement. Labour market outcomes are measured through four dependent variables: participation in the labour force, working, wages and number of days worked during the week. I follow an identification strategy similar to that of chapter 4 of my thesis, which exploits the nature of the return process of Palestinian households from Nahr el–Bared camp (NBC)

in North Lebanon. In section A of the camp I take advantage of a natural experiment, as the return of internally displaced persons (IDPs) was controlled and organised by an external UN agency. In section B of the camp I use an instrumental variable approach to model the return decision, in case it is correlated to economic opportunities at the return or displacement sites.

The results of this chapter show that returning home can increase the likelihood of working by around 117 percentage points, but does not affect the likelihood of joining the labour force, wages or number of days worked per week. The increase in employment prospects is greatest for those who return after two years of displacement, as these individuals can reap the benefits of an economy that has restarted. In addition, the main result of an increase in the probability of working is found to be even larger and more significant for women, but there is no effect for men. When comparing the percentage of skilled workers between the displaced and returnees it becomes clear that there are more opportunities for unskilled work upon returning home, as the economy is not yet developed and has not recovered since the war. This result complements that of Calderón et al. (2011), who find increased employment amongst displaced women, but not displaced men, compared to those who have not been displaced. This chapter has gone one step further, to see how the displaced fare in the labour market upon returning home.

Despite the fact that returning home after conflict induced displacement is a popular policy recommendation, there are few articles that empirically determine the effect of return: Fiala (2015) finds that Ugandan returnees face lower consumption and have fewer household assets compared to the non–displaced; Verwimp and Muñoz Mora (2013) have found that returnees lag behind stayers in terms of calorie intake, poverty and household welfare; Kondylis (2008) finds that Ugandan returnees yield higher agricultural productivity compared to those who were never displaced; Bozzoli et al. (2011) find that returnees engage in different activity choices compared to the displaced; and finally chapter 4 of this thesis finds that return, compared to the displaced, decreases social capital in the short term, but increases it in the long term. This chapter will contribute to this emerging literature, as well as provide much needed research on return and labour market outcomes, thus filling the gap in the academic literature.

This chapter is similar to the research of Bozzoli et al. (2011) who compare the economic activity choices of the displaced and returnees in Northern Uganda. Conceding that the two groups of returnees and IDPs are likely to be of different socio–economic backgrounds, the authors use the conflict intensity at the place of birth of the head of the household as an instrumental variable. Their analysis focuses on participating in three activity choices: cultivation, handicrafts and trading — the three activities that at least 5% of the sample reported participating in. Counter–intuitively, IDPs are more likely to engage in cultivation and trading compared to returnees, but less likely to engage in handicraft making. In general, IDPs are less likely to participate in any economic activity. The reasons for this divergence are not tested, but the authors propose several explanations with contradictory policy recommendations.

In this chapter, I follow a similar identification strategy, comparing the displaced with those who have returned, and relying on an instrumental variable of destruction of housing in addition to the exogeneity of the return process. The instrumental variable used in this chapter, the destruction of housing during a war when all residents were evacuated, is an improvement over the one used by Bozzoli et al. (2011), as it is a stronger predictor of return (more relevant) and independent of labour market outcomes (more exclusive). The conflict intensity at place of birth, which is used as an IV strategy by Bozzoli et al. (2011), is likely to be correlated with certain socio–economic characteristics (such as ethnicity, age, education and family income) that still hold significance in current labour market activity choices. In fact, the legacy and long term effects of conflict have been widely documented, for example, Galdo (2013) finds that a one standard deviation increase in early childhood exposure to violence in Peru leads to a 5% decrease in adult monthly earnings.

Another difference from the work of Bozzoli et al. (2011) is that this chapter is interested in different labour market outcome variables, namely: participating in the labour force, working, number of days worked per week, and wages. These variables have been selected because they are the most indicative of performance in the labour market, most likely to be affected by return (see section 5.2), are easy to measure through a survey, and will yield the most useful policy recommendations.

This chapter also ties into the literature on the effect of forced displacement and conflict on labour market outcomes. Kondylis (2010) studied the labour market effect of household displacement during the war in Bosnia and Herzegovina, instrumenting the household's displacement status with the level of violence and conflict at the household's original locality. She found that displaced Bosnians are less likely to be working than Bosnians who were not displaced. This translated into more unemployment for men, but dropping out of the labour force for women. Kondylis hypothesizes that the main reason for this increase in unemployment amongst the displaced is due to the prevalence of informal markets in Bosnia and Herzegovina. Since displaced workers are less likely to have access to existing social networks and informal markets it is also more difficult for them to find a job. While Kondylis does not have any social network or social capital data to test this mechanism, this chapter will test the hypothesis empirically by including social capital data collected by the author in the analysis. In addition, Kondylis (2010) cannot differentiate between displaced persons who have returned home and those who are still displaced, ignoring an extremely important area that this chapter addresses.

Calderón et al. (2011) show that forced displacement in Colombia improves women's participation in the labour force, as IDPs find themselves in unfamiliar urban settings where women are more likely (than men) to possess the necessary experience for low–skill urban work. Calderón and Ibáñez (2009) study the effect of forced migration on labour market outcomes in Colombia and find that immigration flows produce a negative impact on wages and employment opportunities for all workers (both displaced and "native" workers), and especially so for low–skilled workers. The informal sector expands as a result. Fernández et al. (2014) find that households living through certain shocks of

violence and conflict increase their labour force supply as a coping strategy. Specifically, they find that men take most of this responsibility, and while time spent in agricultural work decreases, time spent in non–agriculture markets increases. Bozzoli et al. (2013) find that an increase in net displacement leads to an increase in the probability of becoming self–employed in Colombia. Self–employment is seen by the authors as a last resort, one that migrants turn to because of their limited social and professional networks.

Using a comparative study of two cities in Sudan, Alix-Garcia and Bartlett (2015) conclude that long term urban residents in conflict areas have a higher probability of being employed in skilled sectors. Michaelsen (2012) instruments mental health with exposure to drug related violence in Mexico, and finds that an increase in exposure to violence has adverse effects on mental health and thus the individual supply of labour. While the effect is strong, the assumption that violence affects labour supply only through the mental health channel is difficult to believe. Violence can affect access to education, damage infrastructure, and cause physical harm, all of which can directly affect labour market outcomes. Shemyakina (2011a) finds that women who were of school age and living in conflict affected areas of Tajikistan had lower school attainment but were more likely to find a job.

These studies are not able to identify the mechanism that causes a change in labour force outcomes, nor do they look at what happens to individuals once they return home. This is a large gap in the literature which has been insufficiently addressed so far. While testing the impact of returning home after conflict induced displacement, this chapter draws from the current state of the art by improving the instrumental variable approach of Bozzoli et al. (2011); empirically testing the mechanisms and hypotheses put forward by Kondylis (2010) and Bozzoli et al. (2013); observing heterogeneity by gender, as in Calderón et al. (2011) and Calderón and Ibáñez (2009); focusing on skilled labour like Calderón and Ibáñez (2009); and looking at the supply of labour as a coping strategy, as described by Fernández et al. (2014).

When returning home to an economy that has been destroyed by bombing and fighting (see Justino (2012) for a review) and a dramatically altered social fabric (see chapter 1 for a review of this literature), the rebuilding of the economic market and returnees' participation in it warrants further research. By addressing this gap, this chapter speaks to the literature on post–conflict reconstruction and peace–building (del Castillo and Myers, 2010; Addison and Brück, 2008), which has documented that the slow recovery to peace depends on the creation of inclusive economic opportunities and productive reintegration. The resilience of labour markets to shocks such as war, conflict and natural disasters is a little understood topic, yet crucial for peace–building efforts.

5.2 Conceptual Discussion

According to neo–classical economic theory, at a macro–level the supply and demand for labour determine wages and the number of persons employed in a given economy or market. Any changes to these indicators of labour markets, i.e. wages and employment, stem from the supply and demand for labour. Figure 5.1 displays the demand for labour (LD) — as wages are higher, firms demand less labour given the same marginal productivity of labour. The supply of labour (LS) increases as wages increase, but this is only found to be true up to a certain point. Once workers earn higher salaries, it is theorised that the substitution effect of leisure time over work becomes smaller than the income effect, since leisure is considered to be a normal good. Graphically this is represented in the backward–bending labour supply curve.

The labour demand curve could shift for two main reasons. Firstly, due to a change in preferences within a certain sector. For example, with the rise in information technology, the demand for IT specialists has also increased. Secondly, the demand curve will shift because of a general increase or decrease in wealth — demand for labour declines during a recession as businesses start to shut down. Indirectly the interest rates have been used as a tool to increase labour demand, by stimulating the growth of the economy. On the other hand, the labour demand curve can become steeper or shallower if there is a change in the marginal productivity of labour for a given wage rate.

The labour supply curve could shift because of population growth. Theoretically it was thought that migration caused an increase in labour supply and thus a decrease in wages, but this has not shown to be the case empirically, and led economists to believe that migrant workers compete for jobs in a different but complementary labour market (Ottaviano and Peri, 2012). The slope of the labour supply curve could change if there is a change in the marginal returns to leisure. For example, one could think that during the summer months the supply of labour will be lower for a given wage rate as some of us would prefer to be at the beach.

In what follows I aim to theoretically examine how the labour market could be affected by returning home, compared to remaining displaced. There are several effects occurring simultaneously, each resulting in different changes to the wage rate and employment. In addition, some effects will hold in the short run, but could possibly be reversed in the long run. For this reason it is important to test the impact of return empirically, but before this I present the potential effects that return can have on labour market outcomes. If we assume that figure 5.1 represents the demand and supply for labour in displacement markets, figures 5.2 to 5.8 have been adapted to reflect changes upon return. The latter figures include dotted lines to indicate the original labour demand (LD) and labour supply (LS).

Intuitively we would expect changes to the labour market to stem from the following factors.

1. Population changes:

   During wartime there is a dramatic decrease in labour supply, as other concerns such as fighting and security become a priority (Matowu and Stewart, 2001) and sources of livelihoods are destroyed (Ibáñez and Moya, 2010; Brück, 2001). In the case of the war in Nahr el–Bared, the evacuation of Palestinians on the third day of fighting drove the labour supply to zero. Compared to the displacement market this is represented by a left shift in the labour supply curve as shown in figure 5.2. This means that wages are initially higher than the displaced, but the employment rate is lower. For illustration purposes, assume that there are three waves of return: 1st, 2nd and 3rd waves of returnees. With each wave we see an increase in labour supply, or a shift in the labour supply curve, resulting in a decrease in wages, from W_1 to W_2 to W_3, and an increase in employment, from E_1 to E_2 to E_3. When comparing these wages to the displaced, the picture is less clear. If all potential workers have returned home, it is possible that the labour supply will be equal to that in displacement markets. However, if not all households and potential workers have returned, then labour supply will always be lower than in displacement markets. This means that returnees will have higher wages and lower employment than the displaced. There is a dynamic effect of return on the labour market, since wages and employment will be determined by the wave of return. This chapter tries to account for this by analysing the effect of the timing of return, as well as controlling for population size.

   $H_{1.1}$: Returnees have higher wages but lower employment compared to the displaced.

   $H_{1.2}$: Early returnees have higher wages but less employment compared to later returnees.

2. Market size:

   Early returnees will arrive to an economic market that was destroyed by the war and needs to be rebuilt from scratch (Collier et al., 2003). Compared to the usually busy economic areas that displaced households are residing in, war creates an economic vacuum and a lack of opportunity (Valerie Cerra, 2008; Abadie and Gardeazabal, 2003; Justino and Verwimp, 2013). Pre–war businesses are likely to have shut down, so demand for labour will be low. This implies a downward shift in the labour demand curve, as shown in figure 5.3, resulting in lower wages and lower employment.

   Once more households return, the economy will start to grow. For example, returnees will need to purchase vegetables and fruits and so street vendors will pop up and new work opportunities will be created. Similar to the effect on labour supply, labour demand will increase with time. This increase in labour demand increases wages and employment. Once all households return we are likely to see labour demand equal to that of the displacement market.

   $H_{2.1}$: Returnees have lower wages and employment compared to the displaced.

$H_{2.2}$: Later returnees have higher wages and employment compared to early returnees.

3. Reconstruction:

   There is one exception to the reduction in demand for labour. Due to the destruction of buildings, roads and physical institutions there is an increased opportunity for work in the construction sector (Collier, 2009). It is likely that we see an increase in demand for labourers in the construction sector, resulting in higher wages and higher employment as shown in figure 5.4. To test this hypothesis, the analysis will be conducted separately for the construction sector.

   $H_{3.1}$: Returnees have higher wages and employment compared to the displaced because of the construction sector.

4. Social capital:

   In his classic study titled *Getting a Job*, Granovetter (1974) explains how information asymmetries about job opportunities exist amongst job searchers. When jobs are advertised informally and by word of mouth, individuals with a large network (not necessarily a dense one) are those that are more likely to find jobs as they are exposed to a larger set of individuals with potentially different information. The effect of social capital is at the micro–level, i.e. it affects individuals rather than the labour market as a whole. For this reason it is not usually represented as a labour supply side or demand side factor, but rather as individual heterogeneous effects on labour market outcomes. Since Granovetter's seminal study there has been an abundance of literature that show how social networks and social capital improve the chances of finding work and increase wages (Montgomery, 1991; Munshi, 2003; Calvó-Armengol, 2004; Calvó-Armengol and Zenou, 2005; Wahba and Zenou, 2005; Buerkle and Guseva, 2002; Knight and Yueh, 2008).

   The reason that both employers and job seekers rely on informal advertising is that it is relatively inexpensive compared to other job search methods, there is a higher likelihood of securing a job, and allows employers a "screening mechanism" (Holzer, 1988). This is especially true in Nahr el–Bared, where hiring and job search is usually done through an informal network of contacts, and often an employer will hire a new employee because of a favour owed or a family tie. This insight was supported by anecdotal evidence gathered by the author prior to starting the survey. The network of contacts, or more locally known as *wasta*, is a system of favours prevalent in Arab culture. *Wasta*, similar to *guanxi* in China, refers to the ability of an individual to pull strings, be it in government, at work, or at a nightclub. Belonging to different groups and organizations, knowing enough people — and the right type of people — greatly increases the chances of obtaining a *wasta* that can secure a job opportunity. Knight and Yueh (2008) are able to show that *guanxi* has a positive effect on an individual's wages, but despite its prevalence in the Arab world, there has been no study that quantifies the effect *wasta* can have on the probability of finding a job.

The results of chapter 4 found a heterogeneous effect of return: Households who had returned soon after the war ended have higher social capital compared to the displaced, but households who returned 5 years after the early returnees have lower social capital compared to the displaced. We would then expect early returnees to have a higher probability of finding a job and being employed, but the opposite effect for late returnees.

$H_{4.1}$: Early returnees have higher employment compared to the displaced because of higher social capital.

$H_{4.2}$: Late returnees have lower employment compared to the displaced because of lower social capital.

5. Norms and attitudes:

   Calderón et al. (2011) find that displaced women in Colombia work longer hours compared to non–displaced women because they possess the necessary experience for low–skill work in urban areas. Menon and van der Meulen Rodgers (2015) and Shemyakina (2011a) find a similar effect for women during the conflicts in Nepal and Tajikistan respectively. While men are fighting, or if they have been killed or abducted during the war, women are forced to become the main breadwinners for the family. Additionally, it is usually easier for women to find work during displacement, particularly in the low–skilled cottage industry sectors or domestic work. Anecdotal evidence states that the labour force participation of women in Europe remained higher after the World Wars because a change in behaviour and attitudes towards the economic role of women was sustained.

   Traditionally, Palestinian women are less likely to participate in the formal labour force than men. Amongst Palestinians in Lebanon, the female labour force participation rate is 13% compared to the male labour force participation rate of 65% (Chaaban et al., 2010). Instead women usually take up housekeeping roles, and their time is occupied with cooking, cleaning and taking care of the children. If we assume that the traditional division of duties is challenged by displacement, as shown by previous studies, we would be interested to learn what happens upon return. Do women get used to their economic independence and continue working in the labour force? Do attitudes on women's work change once their added contribution to household income is appreciated? Or do women return to their traditional roles when life returns to 'normal'?

   This chapter tests whether the effect of displacement on increased female labour force participation is long–lasting, by separating the sample into males and females. Figure 5.5 shows how labour supply of female workers can change upon return. In figure 5.5a female labour supply is lower upon return, indicating a reversion to original attitudes, and higher wages but lower employment for women. If there is a sustained behavioural change, female labour supply (as well as wages and employment) will not be affected by return as shown in figure 5.5b.

$H_{5.1}$: Return will cause higher wages but lower employment amongst women because of a reversion to traditional attitudes.

$H_{5.2}$: There will be no significant effect of return because of a sustained change in norms and attitudes.

It is worth noting that hypotheses 5.1 and 5.2 rely on the assumption of a change in norms and attitudes during displacement. Unfortunately, given the context of this chapter it is impossible to test for this due to lack of a relevant control group.

6. Demand for female workers:

   Demand for female workers could be higher in the returnee market, because of the flexibility of occupations predominantly associated with women, particularly cottage type industries that can be done from home. While the literature shows this to be the case during displacement (Calderón et al., 2011), there is also a potential for this effect to dominate upon return because of the undeveloped market that requires flexible skills. Demand for male workers will go down, as opportunities for specialised work decreases. As shown in figure 5.6a and 5.6b this will imply an increase in employment and wages of women, but a decrease of both for men.

   $H_{6.1}$: Return will cause higher wages and employment among women because of their adaptable skills, but lower wages and employment amongst men.

7. Rejoining the labour force:

   Displacement is usually seen as a temporary situation, where IDPs are stuck in a strange limbo. There are certain fixed costs associated with starting a new job or business, and the benefits might not be reaped if IDPs are expecting to return home soon. Upon return, they might re–enter the labour force. This will represent a rightward shift of the labour supply curve upon returning home, resulting in lower wages but higher employment. The effect on labour supply is shown in figure 5.7, wages increase but employment increases.

   $H_{7.1}$: Return will cause lower wages and higher employment when individuals re–enter the labour market.

8. Quality of labour:

   However, on that same note, during this period of inactivity there will be a deterioration of skills that are applicable in the labour market. During times of displacement and conflict schooling and education are interrupted (Shemyakina, 2011b) and health and other human capital indicators worsen (Justino, 2012), ultimately leading to deteriorating quality of labour amongst the displaced. Given that the slope of the labour demand curve is greater when employers are willing to hire more workers at a given wage rate, this implies a steep labour demand curve in the returnee market, and a shallow labour demand curve in the displacement market. This is illustrated in figure 5.8 and results in higher wages and employment amongst the returnees.

$H_{8.1}$: Returnees will have higher wages and employment compared to the displaced because skills continue to deteriorate during displacement.

This section illustrates conflicting effects of displacement. For example, demand for male labour could decrease because of their less adaptable skills, but at the same time increase because of opportunities in the construction sector. The following sections will empirically test to see which effect is strongest.

5.3 Context

The context for this chapter is the same as that of chapter 4 of my thesis. As a reminder, in 2007, a war broke out in Nahr el–Bared camp (NBC) in the North of Lebanon, and lasted for 3 months. Nahr el–Bared camp is a Palestinian refugee camp, home to Palestinians who fled after the Palestinian exodus of 1948. While this potentially makes Nahr el–Bared camp a very unique case–study, only 4.6% of the sample were alive at the time of the initial displacement from Palestine. Since returning to Palestine has been ruled out by the Oslo Accords of 1993, Palestinians have set up home in Lebanon, even if Palestine is not forgotten (Ramadan, 2010).

During the war, all residents of the camp were evacuated to nearby areas in the first few days, while the Lebanese army conducted an aerial bombardment operation to wipe out Fatah al–Islam militia fighters who were hiding in the camp. The aerial bombardment completely destroyed all buildings and homes in one of two sections of the camp (section A), but the damage in the second section B was sporadic and superficial. Households from section B were able to return home soon after the war ended, if their houses were rebuilt or undamaged. Because section A was completely destroyed, it was cordoned off and divided into eight geographical plots. Once funding from international donors was received for each plot, reconstruction took place and households were allowed to return home. These households returned home later than those in section B, and I use the fact that the return decision was out of the hands of the household to provide a plausibly exogenous return effect. In section B, the damage levels are used as an instrumental variable to model the return decision. The exogeneity of return and instrumental variable strategy are discussed further in section 5.5.

5.4 Data collection and Data

The dataset used in this analysis is the same household survey which I collected in February 2012 in Nahr el–Bared Camp, Lebanon. The survey consists of 590 households and 3,059 individuals, stratified by current residential area. The sample was drawn from a database provided by the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). Collected soon after the 2007 war and over the following year, the aim of this database was to register and trace all households displaced from Nahr el–Bared

camp. As displaced families approached centres throughout the country to receive aid and rent subsidies, UNRWA social workers gathered concise demographic information on the members of the households, the addresses of the household, and if possible a contact number. This information is updated each time rent subsidies are disbursed to displaced households, which at the time of the survey was three times per year. The version of the database which was used to create the sample for this household survey was last updated in December of 2012, i.e. one month prior to fieldwork.

The data collectors interviewed an available household member if he/she was above the age of 15. The respondent answered certain questions about other household members (the modules on employment, education and health), questions at the level of the household (e.g. household expenditure on food), and questions related to the respondent him/herself (e.g. How many times have you visited a friend over the last week to socialize?).

Based on the conceptual discussion in section 5.2, it is clear that changes to the labour market can be measured along two main indicators: wages and employment. Employment can be considered through the number of days worked per week, and a binary variable indicating whether an individual is working or not. In addition, participation in the labour force is a useful variable, since individuals might like to increase their labour supply but not be able to find a job (at least in the short term). This makes a total of four dependent variables:

1. **Participates in the labour force**: This is a binary variable equal to one if an individual (older than 13) is working or looking for work, and zero otherwise.
2. **Working**: This is equal to one if the individual is working, and zero if they are not working but looking for a job. This is calculated for those older than 13.
3. **Wages**: This is measured as the log of monthly payment in dollars. Workers can be paid daily or weekly but this was transformed into a monthly variable post–data collection. Some workers are paid a piece rate, so they were asked to estimate their average monthly earnings.
4. **Number of days worked per week**: Since labour supply can be increased not only by the number of workers, but also by the number of days each individual works, it is also important to include this measure in the analysis. This variable is only measured for those who were working at the time of the survey.

These dependent variables are described further in table 5.1. Summary statistics of the main dependent variables and other employment variables are provided in table 5.2, and show that 40% of the sample participate in the labour force, and 30% are currently working. Of those who are working, 30% are skilled workers, average monthly income is 403 dollars, and on average work just over 5 days per week.

In addition to the main dependent variables, this section provides a descriptive picture of the labour market for Palestinians from Nahr el–Bared camp.

Table 5.2 shows that the employment rate is 82.2%, or that the unemployment rate is

17.8%. This is a relatively high unemployment rate, higher than the Lebanese national rate of 9% and the Middle East and North Africa average of 10.7%. As Palestinians are not legally allowed to be employed in many professions, and find difficulty entering the Lebanese economy, economic opportunities are minimal (Sayigh, 1995). Knowing that the informal sector is the main driver of employment amongst Palestinians, the questionnaire administered for this survey contained a detailed employment module with several questions about different types of employment opportunity to ensure that employment is fully captured. Previous research had put the unemployment rate as quite high, but no formal measurement of unemployment was taken until the Socio-Economic Survey of Palestinian Refugees conducted by UNRWA and The American University of Beirut took place in 2010 (Chaaban et al., 2010). This study revealed the unemployment rate of all Palestinians (not just those from Nahr el-Bared) to be 8%, but there was some contention as to whether these figures were forcefully changed by the Lebanese Government.

Figure 5.9 breaks down the unemployment rate by age, and table 5.3 separates the main labour market variables by sex. There is a clear concentration of unemployment amongst the youth, and there is also a significantly larger proportion of men who participate in the labour force compared to women. In fact, 54% of men participate in the labour force compared to only 14% of women.

Figure 5.10 shows the main occupation categories of Palestinian workers, and we see that daily workers, builders and manual labourers are the most common occupations. In second place comes sellers, which refers to those who sell products in a shop or as a street vendor. It is clear that the most common professions are those that are unstable and often dangerous. Figure 5.11 shows the sector that these individuals work in. As is often the case in a post–conflict economy, the building sector seems to be the largest producer of employment. This is followed by the sales and distribution sector, which is interesting to observe given Nahr el–Bared's pre-conflict reputation as a bustling market place that attracted Lebanese, Palestinians and even Syrians for its cheap and plentiful produce. According to figures 5.12a and 5.13a, most workers work full–time and are paid in cash either monthly, weekly or daily (compared to being paid piece rate or in kind).

Looking for a job through a contact is popular amongst the unemployed, it is also the predominant mode of job search for those who have successfully found a job as shown in figure 5.12b. This supports the explanation provided by Granovetter (1974) — while a job seeker might not actively approach a contact in hopes of securing a job, it is more likely that contacts approach job seekers if they hear of an appropriate job opportunity.

Figure 5.13b shows the effect of the 2007 war on individuals between the ages of 21 and 70. In the majority of cases the individual was not working in the first place, but if the individual was working quite a large number had to stop working — 453, or 30% of those aged between 21 and 70, and 77.5% of those aged between 21 and 70 who were working at the time. Of those who had to stop working, the majority found another job. 37% of those who were forced to stop their job because of the war were able to resume it either after the war ended or upon returning. A small number are still searching for work, and

roughly the same amount stopped searching for a job.

As is the case in chapter 4, the main explanatory variable of interest is return. The return status of the individual is determined by whether their household is living in the same dwelling they were living in prior to the war (even if it was reconstructed or rebuilt). Table 5.4 shows how many individuals have returned and how many are still displaced in each of sections A and B. Table 5.5 compares labour market outcomes between returnees and displaced in each of sections A and B. We see that most variables are not different between returnees and the displaced except for the percentage who are working. 97% of returnees from section A are working, compared to 81% of the displaced. This implies that there is a highly saturated employment market upon return, with most returnees being able to work compared to a large percentage of unemployment amongst the displaced. I have addressed any potential concerns of splitting the sample this way in chapter 4.

5.5 Identification Strategy

The relationship that this chapter aims to causally estimate is the effect of return on labour market outcomes. By looking at the simple bivariate analysis in table 5.5, we see that camp A returnees are more likely to be working compared to the displaced. While this is indicative of greater opportunities for returnees, we have not controlled for any potentially confounding factors, addressed potential endogeneity nor applied the correct specification for the types of variables under study.

Equation 5.1 displays the relationship between returning home for individual i and labour market outcome j. The reduced form regressions that estimate this equation are found in table 5.9 in the appendix and support the bivariate results that show return increases the probability of working for those originally from section A.

$$Labour\ \ outcome_{i,j} = \alpha + \beta_1 Return_i + \epsilon \tag{5.1}$$

There are a range of individual and household variables that could affect the four labour outcome variables, including age, gender, marital status, intermediate schooling, whether the household is nuclear and the household sex ratio, which are summarised in table 5.6. The location of the individual, or the labour market that the individual belongs to, is likely to play a role in labour market outcomes, but including the current location of each individual is impossible when estimating the effect of return, as these fixed effects will be wiped out by the return variable. Standard errors are robust to account for any interdependence among residuals. The multi–variate equation becomes:

$$Labour\ \ outcome_{i,j,k} = \alpha + \beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k + \epsilon \tag{5.2}$$

Estimating this equation as is would not account for any potential endogeneity between return and labour market outcomes. Deininger et al. (2004) find that there are systematic differences between households who return home after conflict and those who remain

displaced, in particular the return decision is influenced by economic opportunities at the displacement and return sites. As an example of this endogeneity, individuals who were unable to find work during displacement have an incentive to return home to look for better economic opportunities. This endogeneity concern is addressed in the same way as in chapter 4. As a reminder, the dynamics of the return process were different for households originally from section A and section B of the camp, so I have divided my sample in two: households who originate from section A and households who originate from section B. In each of sections A and B I address the potential endogeneity of return and labour markets.

5.5.1 Section A

As previously explained, in section A the camp was geographically partitioned into packages by UNRWA, and then rebuilt when international funding was received. The partition of the camp was not random, instead the camp was partitioned into four quadrants and the far right quadrant was rebuilt first alongside neighbourhoods closest to the sea. UNRWA did not disclose any reasoning behind this choice, and it is thought that they expected to receive funding for all the reconstruction at once, and while they started work in one corner of the camp it was not envisioned that packages of the camp would be finished before others. As it happened, there were delays to construction because of lack of funding and due to the discovery of an ancient archaeological site, so UNRWA allowed those whose dwellings were rebuilt to return home. This made the decision to return outside the hands of the household and therefore uncorrelated to any socio–economic characteristics and independent of labour market outcomes. For this sub–sample I simply estimate equation 5.2. In chapter 4 I constructed pre–war characteristics based on the dataset and compared households and individuals who had returned and found little difference. I rule out the possibility that households with connections to UNRWA are able to have their dwelling rebuilt by controlling for a contact with UNRWA as part of the robustness checks in section 5.8.

5.5.2 Section B

In section B of the camp, households did make a decision to return, but this largely depended on whether their house was destroyed or not. If a household's dwelling was not completely destroyed after the war, they were able to return home. If not, households struggled to find the funds to rebuild their houses and have remained displaced. As I worry that an individual's labour market outcomes might predict the decision of returning home, I use the destruction of the household's original dwelling as an instrumental variable to predict return.

The destruction of the dwellings in section B of the camp is a sporadic spill–over from the aerial bombardment that completely destroyed section A. As households were evacuated from NBC before the Lebanese army began the aerial bombardment operation,

it is unlikely that the destruction of dwellings was a targeted attack based on socio–economic characteristics of the residents of the dwellings. This makes the destruction of dwellings an exclusive instrumental variable.

As justification to the exclusivity, table 4.9 in chapter 4 provides a balance table of pre–war characteristics between households whose dwellings were destroyed and households whose dwellings are not destroyed. We find no significant differences in these characteristics.

Despite this, it can be argued that there are potential challenges to this exclusivity. Firstly, dwellings that were of poorer quality could be those that did not withstand the bombardment and were razed to the ground. These dwellings are likely to belong to poorer and more vulnerable households. This confoundment is not likely because the power of rockets used by the Lebanese army would have destroyed any building no matter its foundations, but nevertheless I control for household wealth by including an index of household assets and consumption as a robustness check with little difference to the main results. Secondly, it could be that destruction of dwellings directly affects labour force participation because of a loss of assets and decrease in wealth. If households increase their labour supply to compensate for this loss then the instrumental variable is no longer exclusive. This possibility is ruled out by controlling for household assets and consumption as a robustness check and finding little difference in results. Thirdly, it could be argued that households who supported Fatah al–Islam were targeted by the Lebanese military, which would play a role in determining labour market outcomes if these individuals are discriminated against. While this is unlikely because Palestinians had since evacuated the camp, as a robustness check I also control for trust in 'local forces', a proxy for Fatah al–Islam.

The second criteria for a valid instrumental variable is its relevance, i.e. whether destruction is a good predictor of return. After the war ended, some Palestinians from section B found themselves in a difficult situation. These households arrived at the camp to find their houses razed to the ground. With insufficient funds to rebuild their dwellings and no help from the Lebanese government, UNRWA or other NGOs, most households waited it out. They either tried to save enough money for construction costs, or thought that UNRWA would pick up the pieces (ultimately they did not, and at the time of writing many of these households remain displaced). But households who were lucky enough to not have their dwellings destroyed returned as soon as the war ended. The first stage of the instrumental variable regression estimates the following equation:

$$P(Return_j = 1) = \alpha + \beta_1 Destruction_j + \beta_2 Individual_i + \beta_2 Household_j + \epsilon \qquad (5.3)$$

Where the return, individual characteristics and household characteristics are the same as those described previously. Destruction is a binary variable equal to one if the household reported their dwelling as being completely destroyed during the war, and zero if their houses were not destroyed or only superficially damaged.

In chapter 4 this equation was estimated using a linear probability model, because the main outcomes of interest were continuous (in that case it was an index of social capital). Angrist and Pischke (2009) suggests using a linear probability model in the first stage because the residuals of the first stage will be inserted into the second stage regression — therefore the residuals of the first stage should be uncorrelated with the predicted values. Using a non–linear estimation such as a probit or a logit can produce residuals that are correlated with predicted results. However, if the dependent variable is binary, as in the case of participation in the labour force and working, an IV probit model will assume a continuous endogenous regressor. Since return is a binary variable, the two stages are estimated simultaneously using a bivariate maximum likelihood estimation as suggested by Wooldridge (2010). When estimating the effect of return on continuous labour market outcomes, as is the case for wages and days worked per week, a linear probability model is applied in the first stage. The following two equations are estimated:

$$Return_{i,k} = \Phi[\beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k + \epsilon] \tag{5.4}$$

$$Labour\ \ outcome_{i,k} = \Phi[\beta_1 Return_i^* + \beta_2 Individual_i + \beta_3 Household_k + \epsilon] \tag{5.5}$$

The results of equation 5.4 are reported in table 5.7 when the probit maximum likelihood is estimated separately. This gives evidence of quite a relevant instrument, if an individual's dwelling was completely destroyed, they are 76 percentage points less likely to return home to section B. Table 5.8 provides further statistics that show the relevance of destruction as an instrument because the F–statistic is higher than the rule of thumb of 10 (Stock et al., 2002).

The computation of marginal and impact effects in the bivariate model are slightly complex because the covariates included in the first equation are also included in the second, meaning the marginal effect from one equation will be related to the marginal effect from the other. In Stata, I apply a non–linear method to calculate the standard errors of the marginal effects.

5.5.3 Regression specifications

The first relationship I aim to estimate is the effect of return on labour force participation. This is a binary variable equal to one if the individual is participating in the labour force, either by working or looking for work, and zero otherwise. I estimate this relationship with a probit function Φ, or the inverse standard normal transformation:

$$\begin{aligned} Labour\ \ force\ \ participationi, k = \Phi[\beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k \\ + \beta_4 Household\ \ size_k + \beta_5 Age\ \ oldest\ \ member_k + \epsilon] \end{aligned} \tag{5.6}$$

As in chapter 3 of this thesis, the marginal effect of continuous variables such as age, and the impact effect of binary variables such as return, are calculated as equations 5.7 and

5.8 respectively:

$$\frac{\delta Labour\ \ force\ \ part}{\delta Age} = \Phi[\beta_1^* Return_{avg} + \beta_2^* Invidual_{avg} + \beta_3^* Household_{avg}] \times \beta_3^* \quad (5.7)$$

$$\begin{aligned}\Delta = \Phi[\beta_1^* Return_{avg} + \beta_2^* Invidual_{avg} + \beta_3^* Household_{avg}] \\ -\Phi[\beta_2^* Invidual_{avg} + \beta_3^* Household_{avg}]\end{aligned} \quad (5.8)$$

The second dependent variable of interest is whether the individual is working or not. This variable is only observed for those who are part of the labour force, so selection into the labour force needs to be addressed. I use a Heckman probit two stage estimation to correct for this potential selection bias. This involves estimating the probability of selection into the labour market using equation 5.6, which includes two identifying instruments for selection: household size and the age of the oldest household member. The pseudo–residuals from this equation are then stored (called the inverse–Mills ratio or $IMR_{1,i}$), representing unexplained selection into the labour force. I then estimate the following regression using a Heckman probit:

$$Working_{i,k} = \Phi[\beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k + \beta_4 IMR_{1,i} + \epsilon] \quad (5.9)$$

If β_4 is significant this will indicate the presence of non–random sample selection, which if not accounted for could have biased the estimates of the other coefficients.[1] In equation 5.9, I do not include household size and age of oldest household member as this will cause multicollinearity and large standard errors. The marginal and impact effects are calculated in the same way as 5.7 and 5.8.

The last two dependent variables are wages and number of days worked per week which are only observed for those who are working. In this case I also use a Heckman two stage estimation to correct for selection, however for these variables it is to correct for selection into 'working' rather than the labour force. The selection identifying instruments are also household size and the age of the oldest household member, and the Heckman first stage is as follows:

$$\begin{aligned}Working_{i,k} = \Phi[\beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k \\ +\beta_4 Household\ \ size_k + \beta_5 Age\ \ oldest\ \ member_k + \epsilon]\end{aligned} \quad (5.10)$$

After storing the pseudo residuals, $IMR_{2,i}$, I estimate equations 5.11 and 5.12. Again, these equations do not include household size and age of oldest household member as this will cause multicollinearity and large standard errors.

$$Log\ \ wages_{i,k} = \alpha + \beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k + \beta_4 IMR_{2,i} + \epsilon \quad (5.11)$$

Since wages are transformed using the natural log, the effect of covariates are interpreted differently. The effect of an infinitesimal change in continuous variables is equal to the

[1] If β_4 is significant then the standard errors will also need to be corrected using bootstrapped or Heckman standard errors.

exponentiated coefficient, or $[e^{\beta} \times 100]\%$ change in wages. The effect of a binary variable is $[(e^{\beta} - 1) \times 100]\%$ change in wages.

$$Days\ \ worked_{i,k} = \alpha + \beta_1 Return_i + \beta_2 Individual_i + \beta_3 Household_k + \beta_4 IMR_i + \epsilon \quad (5.12)$$

In equation 5.12 coefficients are interpreted as the change in the number of days worked due to an incremental change in the explanatory variables, ceteris paribus. If the explanatory variable is binary, such as $Return_i$, then β_1 is interpreted as the differential in days worked between returnees and the displaced.

In section B, the estimation of these equations is further complicated by the endogenous explanatory variable (return). Wooldridge (2010) suggests estimating a two stage least squares (2SLS), no matter the type of endogenous variable (i.e. continuous or binary), and including the inverse mills ratio obtained from the first stage selection equation. This is because we only use a linear projection of the endogenous variable.

5.6 Results

Table 5.10 produces the results of equations 5.6, 5.9, 5.11 and 5.12. The dependent variables are participation in the labour force (columns 1, 2 and 3), working (columns 4, 5 and 6), number of days worked (columns 7, 8 and 9) and wages (columns 10, 11 and 12).

Columns 1, 4, 7 and 10 show the results for section A of NBC. In section B, results are included without correcting for an IV (columns 2, 5, 8 and 11) and when correcting for an IV (columns 3, 6, 9 and 12). For each of the dependent variables 'working', 'wages' and 'days worked' table 5.10 shows the results with the inclusion of the inverse mills ratio, which is actually statistically insignificant, indicating any selection into the labour force has already been controlled for through individual and household covariates.

Participates in Labour Force

There is no effect of return on participating in the labour force for both sections A and B. Males are unsurprisingly more likely to participate in the labour force. In both sections A and B, age significantly increases the likelihood of joining the labour force up to a certain point, but as shown by the negative coefficient of 'Age squared', age starts to reduce the probability of belonging to the labour force. Married individuals from section B are less likely to join the labour force. Individuals from larger households and households with older family members are less likely to join the labour force. As an individual household's ratio of males to females increases, the likelihood of joining the labour force decreases.

Working

Returnees to section A are 117 percentage points more likely to be working. This result does not hold in section B as the coefficient is smaller and thus statistically insignificant. Males are less likely to be working in section B, despite the fact that they are more likely to participate in the labour force. Married individuals are more likely to be working in both

sections A and B. It is interesting to see how the individual's sex and marital status have opposite effects on the probability of participating in the labour force and working. While single, male men are more likely to join the labour force, they are not necessarily seen as more desirable to employers, and have a smaller probability of finding work compared to married individuals, or women.

Wages

There is also no significant effect of return on wages in both sections A and B. In both sections, having intermediate school education greatly increases wages by 44% in section A and 66% in section B (calculated as $[(e^{\beta} - 1) \times 100]\%$). In section A, a small change in the ratio of males to females in the household will increase wages but this effect is quite small.

Number of days worked

Return has no effect on number of days working. If an individual comes from a nuclear household, this reduces the number of days working per week.

These results show that the only effect of return is to increase the probability of an individual working. Our conceptual discussion indicates that this could be due to increased opportunities in the construction sector, better social capital, adaptable skills, consumption smoothing, re–entering the labour market, or deterioration of skills during displacement.

The conceptual discussion also proved a need to differentiate between the male and female labour market and to control for the timing of return and social capital. This is explored in the following section.

5.7 Mechanisms and Channels

In section 5.2 I put forward eight hypotheses that predict different effects of return on the labour market, each caused by a different mechanism or channel. In this section I try to test for the importance of these mechanisms empirically. Firstly, I study how the timing of return can affect labour market outcomes. This could be related to a reduction in labour supply (smaller pool of potential workers given the reduced population size), or a reduction in labour demand (fewer business and economic opportunities in a post-conflict setting). I also supplement this analysis with a proxy for both the population and market size — the number of Palestinians from Nahr el–Bared in the individual's vicinity. Secondly, I see whether an expansion of the construction sector could be driving the results of increased employment amongst returnees. Thirdly, I use a plausibly exogenous measure of social capital to control for any changes to an individual's social networks that could increase the probability of finding employment upon return. Fourthly, I divide the sample to analyse the results for men and women separately. Differential results by gender could be related to either a change in norms or demand for low-skilled work that is associated with women, so I test to see whether the proportion of skilled work differs by gender and

by return status. Fifthly, I discuss the potential of an increase in labour supply due to returnees rejoining the labour force. Lastly, I compare education levels of returnees and the displaced to proxy for the quality of labour that could potentially deteriorate during the displacement phase.

5.7.1 Timing of return and population size

As discussed in section 5.2, the timing of return could play an important role in how an individual participates in the labour market. Assuming a war will drive the labour supply down to zero, as waves of IDPs return home we will start to see a gradual increase in labour supply. However, unless labour supply is greater than that in the displacement market, employment will be lower and wages higher compared to the displaced. In this section I analyse any differential effects depending on the timing of return: early returnees can potentially claim the benefits of higher wages, but less employment. As labour supply increases with more IDPs returning home, wages will decrease and employment increase, until labour supply is equal to that of the displacement market (this is shown graphically in figure 5.2). On the other hand, as more households return home aggregate demand increases, thus increasing demand for labour and driving up wages and employment (as shown in figure 5.3). In order to analyse these effects I first study the timing of return and then use a proxy for the market size.

Unfortunately in section A there is not enough variation in the timing of return to test this hypothesis empirically (see table 5.11), so I focus the analysis on section B. Rather than include a variable on the return status, I have included three binary variables indicating if the individual has returned within one year, two years and three years. I have not included an independent variable for those who are still displaced, so coefficients are analysed with respect to this base group. The results reported in table 5.12 are only indicative, as the endogeneity of the timing of return with labour market outcomes cannot be solved using the instrumental variable strategy employed previously.

Table 5.12 shows an interesting pattern. The effect of return on whether an individual is working or not is felt greatest by those who have returned within 2 years. In this case return increases the probability of an individual working by 43 percentage points. The effect of returning within one year on the probability of working is small and insignificant. For those who return within 3 years, the probability of working is large but insignificant. All other dependent variables, namely participating in the labour force, wages and days worked, are not affected by the timing of return.

In table 5.13 I use a proxy to control for the market size of the area that the individual is living in. Based on my sample, I constructed a variable equal to the NBC population size for each area. Ideally I would have a variable equal to the actual population size, but this is difficult to obtain given the data scarcity in Lebanon. Also, given that Palestinians mostly interact with each other, both for social and economic reasons, the number of Palestinians from Nahr el–Bared living in the same area as the individual is a plausible

proxy for market size. When including this variable in the analysis, the effect of returning home to section A on the probability of working is roughly the same (a 116 percentage point increase compared to a 117 percentage point increase), but now return has a positive effect on wages, increasing them by 210% in section B.

These results are indicative of the market size hypothesis explained above, those who arrive early face a decrease in demand for labour due to the diminished economic activity. With the second wave of returnees there is a revival of economic activity and thus an improvement in labour market outcomes. The last to arrive will find a saturated labour market, thus having worse labour market outcomes.

5.7.2 Construction sector

In a post war setting, the construction sector is likely to play a unique role in the labour market. While demand for labour in most markets is likely to dampen, demand for construction labour is likely to be high. Table 5.14 tests whether employment in the construction sector is higher for returnees or the displaced in each of sections A and B. The first row looks at the entire sample and the second at men only.

There is no significant difference in the employment of individuals, or men in particular, in the construction sector when comparing the displaced and returnees. However, the percentage of individuals working in the construction sector is quite high (45% of men and 6.7% of women), which could indicate that both the displaced and returnees are involved in the reconstruction of Nahr el–Bared.

5.7.3 Social capital

In this subsection I introduce social capital into the regressions. As highlighted by Durlauf (2002), much of the research on social capital and the labour market suffers from endogeneity, specifically reverse causality. Simply regressing the number of people an individual knows on the employment status is not a suitable analysis. It is very likely that an employed person knows more people simply because he is employed. For this reason, I use variables that cannot be biased by reverse causality to measure social capital, as suggested by Durlauf (2002). This includes the number of relatives, which asks "Without considering those who are living with you in your house, how many of your relatives live in this community?" and the relative family size, which asks "Compared to other Palestinian families, do you think your extended family is larger, smaller or equal to the average family size?". These measures provide a good measure and proxy for social capital but are unlikely to be affected by a households welfare or labour market outcomes, we would only expect causality to be one direction.

Table 5.15 produces the results of the main analysis when controlling for social capital. The effect of return on the probability of working is now larger, return increases the likelihood of working by 122 percentage points (rather than 117 percentage points).

Interestingly, in section B the number of relatives living in the community reduces the probability of working, and in section A reduces the number of days worked per week. In section A, perceptions of a large family increase the probability of working and wages.

These results indicate that social capital plays a role in the labour market, a role which can sometimes be negative. In fact, there is some research which shows a 'dark side to social capital' (Schelling, 1969; Hoff and Sen, 2006), and these results provide further evidence for this. However, social capital is not the mechanism behind the increased employment upon return.

5.7.4 Gender and skilled work

As mentioned earlier, the effect of return on labour market outcomes is likely to be different for men and women. Research has shown how conflict and displacement can alter the household supply of labour because women's skills are more adaptable and men are occupied with the war. We are yet to understand how this can affect men and women's labour market outcomes upon return. Tables 5.16 and 5.17 show the regressions performed separately for men and women.

The main result of return increasing the likelihood of working is actually driven entirely by the female sample. Upon returning home, women are 674 percentage points more likely to be working compared to the displaced. Men are not any more likely to be working (while the return coefficient is still positive, it is not statistically significant). This is a major divergence between the male and female labour market and the effect of return on it. The earlier conceptual discussion considered two factors affecting the labour market outcomes of women: norms and skills. If there was a reversion to traditional roles for women, we would not see this result of increased employment. Instead, our results indicate that there is an increased demand for female workers because of their adaptable skills.

This is further substantiated by the analysis in table 5.18, which compares the proportion of skilled workers amongst the displaced and returnees. The categorisation of skilled work is based on the International Standard Classification of Occupations (ILO, 2012). Namely, skilled labourers are: business men, administrators, managers, professionals, social workers, teachers, and health workers. In general, returnees work in less skilled sectors compared to the displaced. In particular, there are more male skilled workers amongst the displaced. This means that because of low demand for skilled work, men are unable to find work upon return, but women, who have more adaptable skills, are able to find work. This result falls in line with the literature on displacement, which finds that women are more likely to be working in low–skilled, cottage type industries (Calderón et al., 2011). This analysis expands that result to consider not only displacement, but also increased demand for low–skilled work when an economy is recovering.

5.7.5 Rejoining the labour force

It can be hypothesized that upon returning home those who left the labour market during displacement will rejoin, leading to lower wages and higher employment. While an increase in employment is observed, we do not see an increase in labour force participation, which we would also expect if this were true. It is unlikely that rejoining the labour force is the mechanism behind an increase in employment upon return.

5.7.6 Quality of labour

During displacement the quality of labour can deteriorate, either because of skills not being used or because of a disruption to education. While the survey did not collect information on skills or experience, I do have data on education. I consider the education of those younger than 23, or those who would have been most likely to be affected by the war and displacement. Table 5.19 compares education levels of returnees and the displaced, and finds few differences: In section B returnees are more likely to have attended school, and in section A returnees are less likely to be currently attending school.

In addition, I repeat the analysis in table 5.20 excluding those younger than 23, i.e. those who would have been most affected by disruption to schooling during the war and subsequent displacement. If a deterioration in the quality of labour is what drives the result, then we would expect the effect of return to be smaller than for the full sample. In fact, this analysis shows that the effect of return is stronger for this group than the full sample, increasing the likelihood of working by 488 percentage points.

5.8 Robustness checks

In order to be certain of the results presented in this chapter, I have performed a range of robustness checks and find little difference to the main results. These checks include: removing households who do not want to return from the sample, combining section A and B into one sample, and controlling for wealth and connections that could undermine the identification strategy used for the main analysis.

Excluding those who do not want to return

In a similar way to chapter 4, here I exclude households from the sample who would not like to return home. One could worry that households who do not return home are those who have better employment opportunities during the displacement. If this were the case, the coefficients obtained would be biased. However, since we see that return improves the probability of working, it is unlikely that households who do not want to return are those who have better economic opportunities. Nevertheless, I make use of a variable that asks whether the respondent and his/her household would like to return to Nahr el–Bared if possible. Unfortunately this variable was not collected at the individual level, and while individual responses might differ to that of the main respondent, this check still provides

evidence of the robustness of the main results given there is little change in coefficients in table 5.21.

One sample

For this robustness check I increase the sample size by combining sections A and B into one sample, and including a binary variable to indicate the section that the household has originated from. If there were significant differences between the two sections that were driving the main results, we would see a different picture when analysing the full sample. Late return significantly increases the probability of working by 87 percentage points, a slightly lower effect compared to the main result of 117 percentage points. Early return has no effect on the likelihood of working, which is the same as the main result in section B.

Controlling for connections

For this robustness check I have included two variables indicating that the household has a connection with UNRWA and the camp's popular committee in case these households were able to return home before others. If these well-connected households have better labour market outcomes, then the reported results would be biased. Table 5.23 shows little difference to the main results, in fact the effect on working is slightly greater (a 126 percentage increase upon return).

Controlling for wealth

Since it could also be argued that damage of the dwelling during the war has a direct effect on labour market outcomes because of a reduction in wealth, I have redone the analysis controlling for household wealth, measured by an index of household assets and total household consumption. I have not included these as controls in the main analysis because of the probable endogeneity between these variables and the labour market (households who have working members are likely to be wealthier as a direct result), which would cause larger standard errors for all variables. Nevertheless table 5.24 shows little difference in results, the effect of return on the likelihood of working is still significant.

5.9 Conclusion

In this chapter I have studied the effect of returning home on labour market outcomes. Theoretically the effect of return is ambiguous, depending on changes in both the demand and supply of labour. I empirically study the effect of return on four labour market outcomes: participation in the labour force, working, wages and number of days worked. I analyse a dataset of individuals originally from Nahr el–Bared camp in North Lebanon, displaced within Lebanon after a war in 2007 between the Lebanese army and Fatah al–Islam. I use an instrumental variable and exploit the exogenous nature of the return process in order to estimate a causal effect of return.

The results show that return increases the likelihood of working by 117 percentage points. This effect is greatest for those who have returned within two years, reaping the

benefits of greater aggregate demand as the market increases. Women returnees are more likely to be working compared to the displaced, but there is no difference in employment between men who have been displaced and those who have returned. This could be because women possess skills that are adaptable in labour markets, working in cottage type industries from home, as opposed to the more specialised skills that men possess. These results are signs of economic recovery upon return. However, one still needs to be cautious, since these opportunities are mostly within the low–skilled markets, with limited capacity for development.

This chapter has filled an important gap in the academic literature. In addition, the conclusions from this chapter have important implications for the refugee crisis today. Investments in better economic opportunities for men and women which require use of skills should be a priority before sending IDPs and refugees back home. Rebuilding an economy and labour market from scratch is not a simple task and will not happen automatically. Coupled with investments to improve social capital, investments in businesses that require skilled workers will be essential for post–conflict social and economic recovery.

5.10 Appendix A: Labour Demand and Supply

Figure 5.1: Labour market demand and supply

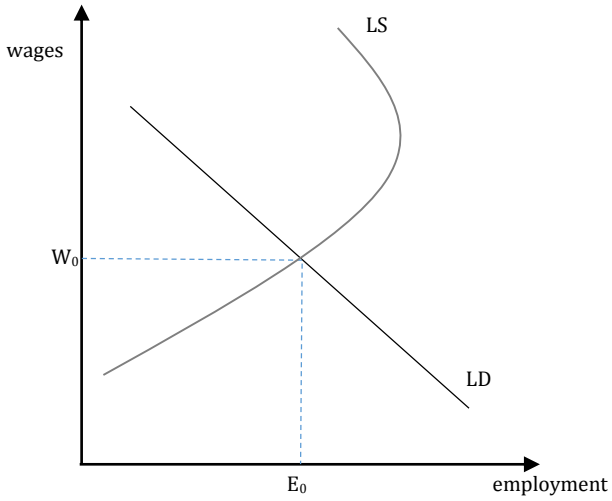


Figure 5.2: Population changes (decrease in initial post–conflict stages and then increase with each wave of returnees) — shifts of labour supply curve

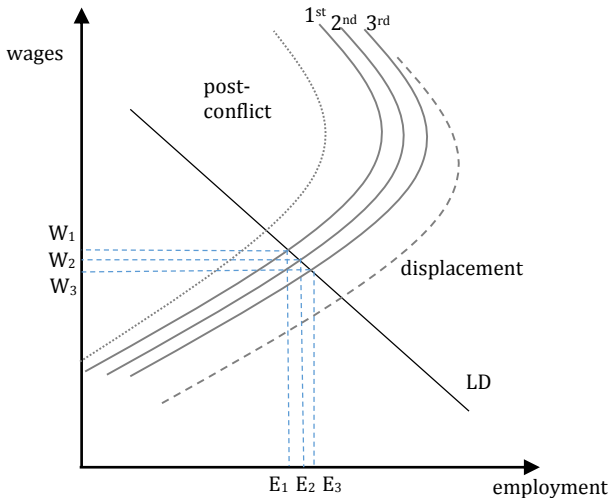


Figure 5.3: Market size (decrease in aggregate demand in initial post–conflict stages and then increase with each wave of returnees)— shifts of labour demand curve

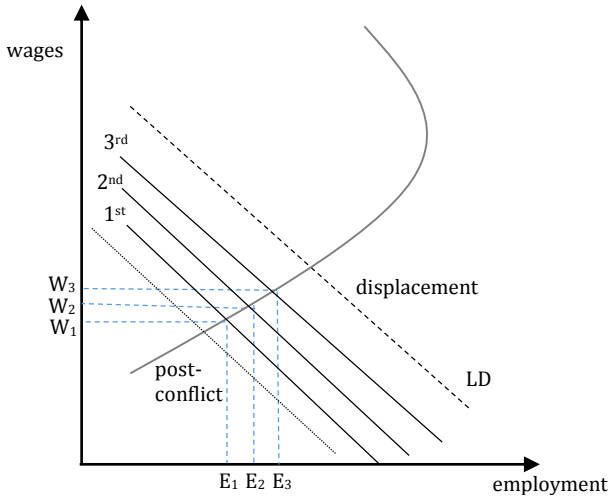


Figure 5.4: Construction sector — upward shift of labour demand curve

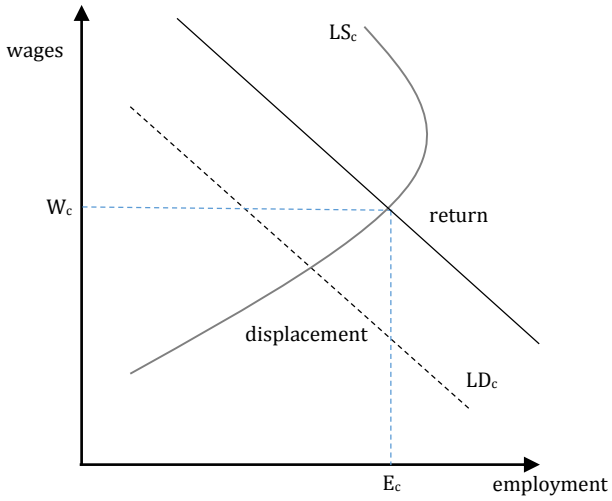
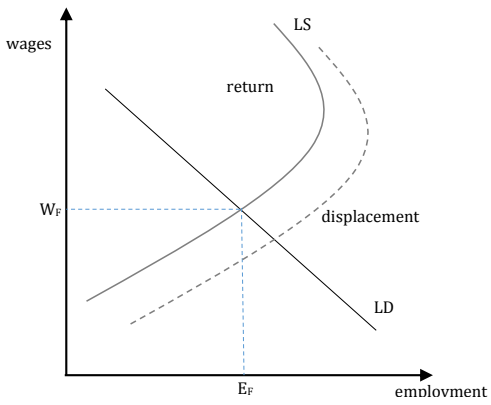


Figure 5.5: Norms and attitudes: Shifts of female labour supply curve

(a) Sustained change



(b) Reversion

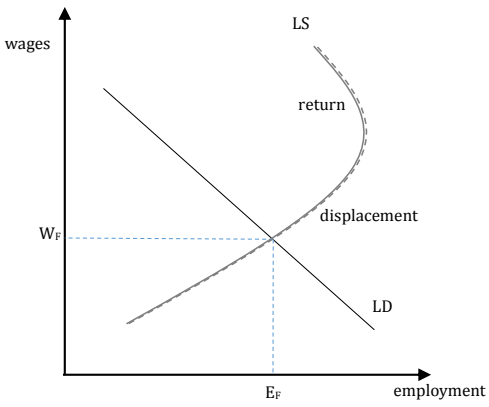


Figure 5.6: Demand for adaptable skills — upward shift of female labour demand curve, downward shift of male labour demand curve

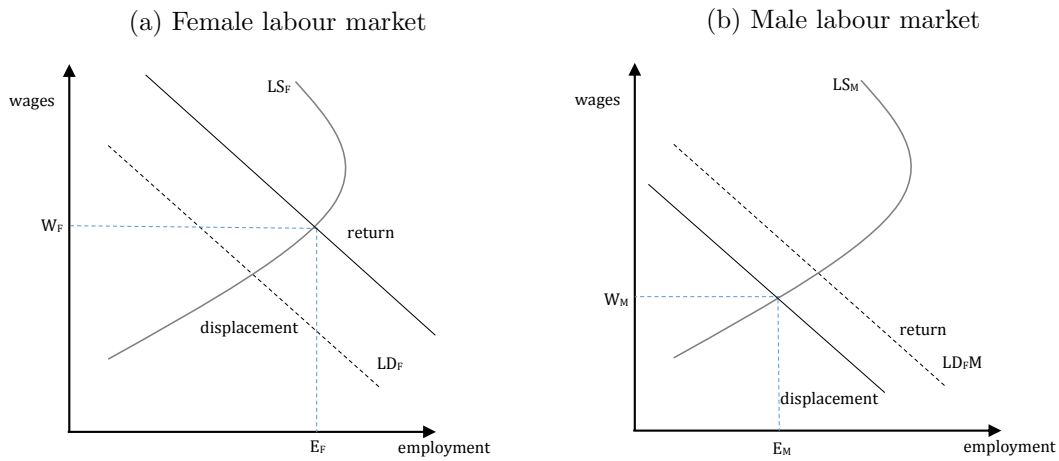


Figure 5.7: Rejoining labour market: upward shift of labour supply curve

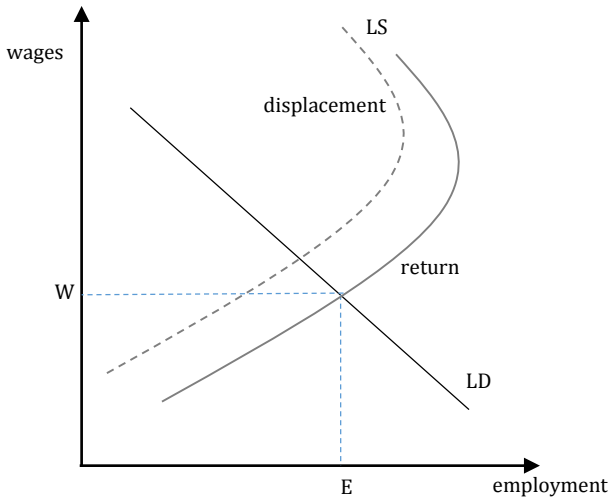
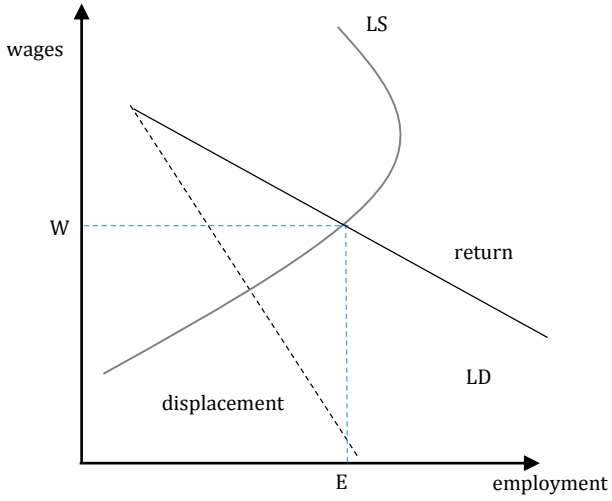


Figure 5.8: Quality of labour: change in slope of labour demand



5.11 Appendix B: Summary Statistics

Table 5.1: Dependent Variables

Dep. Variable	**Description**	**Sample**	**N**
Participates in LF	Participate in labour market by looking for work or working	Older than 13	2032
Working	Individual has been working over last week or usually works in exchange for payment in cash or kind	Participants of LF	825
Number of Days worked	Number of days an individual was working over the last week in exchange for payment either in cash or in kind	Those working	583
Log Wages	The log of monthly wages or income in US $	Those working	580

Table 5.2: Summary statistics: Employment

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Participates in labour force[2]	0.406	0.491	0	1	2032
Working over last 7 days	0.28	0.449	0	1	2254
Currently working (including those on break) [3]	0.301	0.459	0	1	2255
Employed[4]	0.822	0.383	0	1	825
For those who are working (first job):					
Work as skilled labourer	0.304	0.46	0	1	678
Working for a family member	0.18	0.384	0	1	678
Number of days worked over last week	5.048	1.747	1	7	583
Business owner	0.097	0.297	0	1	678
Size of business (number of workers)[5]	1.818	3.774	0	30	66
Monthly income in USD	402.718	329.822	26.667	4000	580
Individual has a work contract	0.14	0.347	0	1	673
Individual has a seasonal job	0.271	0.445	0	1	667
Number of years individual has been at job	8.783	9.255	0.003	50	668
Individual works at home	0.064	0.244	0	1	677
Individual works in their own camp	0.514	0.5	0	1	677
Individual works within proximity of their camp	0.108	0.31	0	1	677
Individual works in other camp	0.062	0.241	0	1	677
Individual works outside camp	0.409	0.492	0	1	677
Individual found work through contact	0.46	0.499	0	1	676
Individual has another job	0.019	0.137	0	1	677

[2]For those older than 13

[3]As there was a big storm in Lebanon in the week prior to the survey, many were not able to go to work.

[4]The variable employed is only constructed for those who are working or looking for work.

Figure 5.9: Unemployment by age group

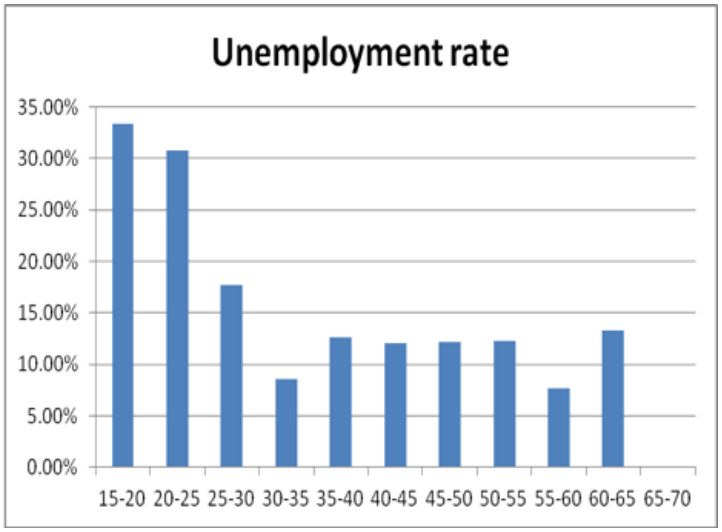


Figure 5.10: Occupation

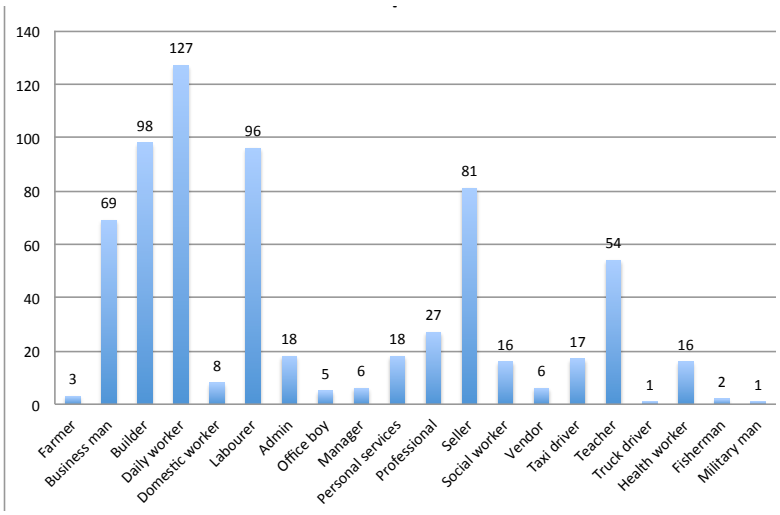


Figure 5.11: Activity sector

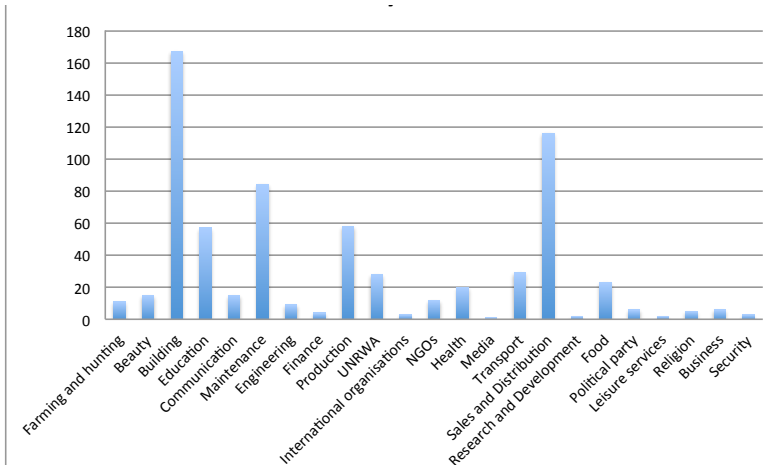
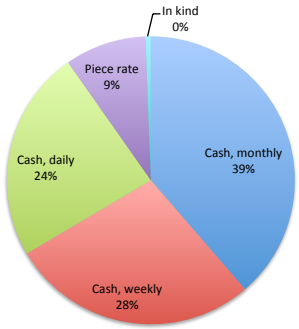
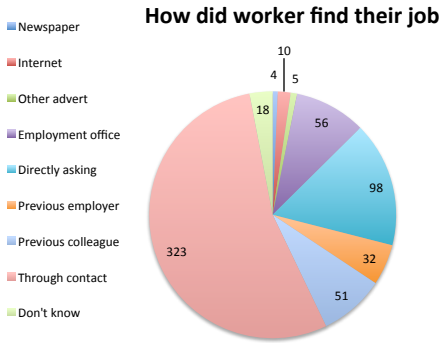


Figure 5.12: Labour market descriptive statistics

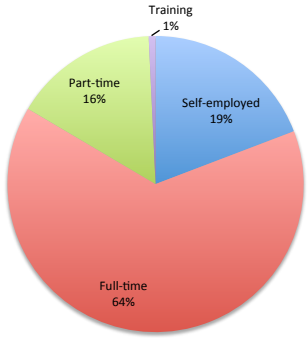
(a) Payment method



(b) Job search



(a) Employment status



(b) Effect of 2007 war on job

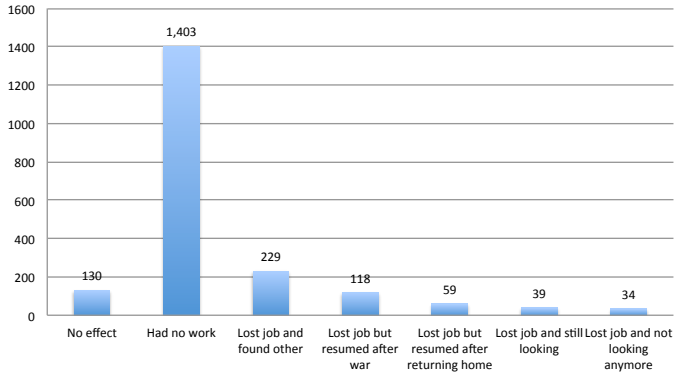


Table 5.3: Differences in employment variables by gender

	Mean		**Diff.**
Variable	Female	Male	
Participates in labour force	0.14	0.68	-0.54^{***}
	(0.01)	(0.02)	(0.02)
Working	0.79	0.83	-0.04
	(0.03)	(0.01)	(0.04)
Number of days worked over last week	4.54	4.31	0.23
	(0.21)	(0.1)	(0.25)
Monthly income in USD	351.94	412.91	-60.97^{*}
	(27.35)	(15.47)	(36.64)

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.4: Return status

	Section A		**Section B**	
Status	Number	Percentage	Number	Percentage
Return	165	7.28	568	71.81
Displaced	2,103	92.72	223	28.19

Table 5.5: Differences in employment variables by return in section A and section B

	Section A			**Section B**		
	Mean		**Diff.**	**Mean**		**Diff.**
Variable	Return	Displaced		Return	Displaced	
Participates in labour force	0.4	0.4	0.00	0.42	0.42	0.00
	(0.05)	(0.01)	(0.05)	(0.03)	(0.04)	(0.05)
Working	0.97	0.81	0.16^{**}	0.82	0.81	0.011
	(0.03)	(0.02)	(0.06)	(0.05)	(0.03)	(0.06)
Monthly income in USD	375.96	379.08	3.12	465.39	491.74	26.36
	(43.52)	(16.51)	(54.88)	(33.43)	(51.83)	(63.36)
Number of days worked	3.74	4.29	-0.56	4.78	4.19	0.58
over last week	(0.42)	(0.11)	(0.41)	(0.18)	(0.38)	(0.38)

Standard errors in parenthesis. Source: Author's dataset
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[5]For those who own a business

Table 5.6: Summary statistics of controls

Ind. Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Individual level controls					
Sex (male=1)	0.494	0.5	0	1	3059
Age	26.46	18.977	0	100	3059
Married	0.34	0.474	0	1	3059
Attended intermediate school (at least)	0.52	0.5	0	1	3059
Household level controls					
Household size	6.21	2.292	1	13	3059
Is household nuclear?	0.811	0.391	0	1	3059
Age of oldest household member	49.886	13.93	19	100	3059
Household sex ratio	1.319	1.095	0	7	3048
Live in refugee camp	0.845	0.362	0	1	3059

5.12 Appendix C: First stage regression results

Table 5.7: Linear probability model first stage results

	Return
Dwelling completely damaged	-0.766***
	(0.026)
Constant	0.395***
	(0.102)
Individual controls	Yes
Household controls	Yes
Observations	783
R^2	0.4343
Degrees of freedom	9
F (9, 773)	147.87
Prob > F	0.000
Robust standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

Table 5.8: First stage regression summary statistics

Variables	R–sq.	Adjusted R–sq.	Partial R–sq.	Robust F (1, 136)	Prob > F
Return	0.5125	0.4803	0.4631	419.4	0.0000

5.13 Appendix D: Main Results

Table 5.9: Reduced form regressions: Effect of return on labour market outcomes

	Participates in LF		Working		Days worked		Log Wages	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B	A	B	A	B	A	B
Individual returned (d)	-0.0000508	0.000287	0.162***	0.0113	0.0890	-0.148	0.0252	-0.0524
	(0.999)	(0.995)	(0.000)	(0.850)	(0.800)	(0.626)	(0.844)	(0.726)
Observations	1517	515	610	215	427	156	432	148
R^2					0.000	0.002	0.000	0.001
Pseudo R^2	0.000	0.000	0.016	0.000				

Marginal effects; p-values in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.10: Effect of return on labour market outcomes

	Participates in LF			Working			Log Wages			Number of days worked		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	A	B	B: IV	A	B	B: IV	A	B	B: IV	A	B	B: IV
Individual returned (d)	0.0612	0.00677	0.0483	1.175***	0.233	0.0279	0.0407	0.119	0.331	0.0343	0.0255	0.159
	(0.0609)	(0.0583)	(0.213)	(0.451)	(0.202)	(0.374)	(0.117)	(0.141)	(0.244)	(0.354)	(0.304)	(0.490)
Sex (male=1) (d)	0.615***	0.641***	1.947***	0.159	-1.547***	-1.700**	-0.187	-0.239	-0.402	0.611	-0.177	-0.0225
	(0.0214)	(0.0369)	(0.154)	(1.532)	(0.332)	(0.711)	(0.457)	(0.312)	(0.361)	(1.022)	(1.075)	(0.743)
Age	0.0651***	0.0950***	0.253***	0.0247	-0.0406	0.0165	-0.0224	-0.0121	-0.0401	0.0389	-0.0525	-0.0203
	(0.00640)	(0.0117)	(0.0320)	(0.202)	(0.0409)	(0.0871)	(0.0601)	(0.0573)	(0.0706)	(0.145)	(0.211)	(0.131)
Age squared	-0.000831***	-0.00106***	-0.00283***	-0.000260	0.000525	-0.000139	0.000388	0.000326	0.000651	-0.000397	0.000902	0.000535
	(0.0000794)	(0.000138)	(0.000377)	(0.00256)	(0.000449)	(0.00102)	(0.000756)	(0.000678)	(0.000812)	(0.00183)	(0.00246)	(0.00151)

Married (d)	-0.0229	-0.279***	-0.752***	0.685***	0.690**	0.689**	0.223*	0.177	0.253	0.0572	-0.172	-0.208
	(0.0407)	(0.0845)	(0.237)	(0.167)	(0.298)	(0.349)	(0.116)	(0.184)	(0.206)	(0.257)	(0.419)	(0.402)
Intermediate school (d)	0.0169	0.0697	0.192	-0.152	0.364	0.416	0.367***	0.468**	0.517***	0.211	0.106	0.106
	(0.0296)	(0.0590)	(0.164)	(0.146)	(0.234)	(0.258)	(0.0762)	(0.197)	(0.178)	(0.191)	(0.336)	(0.304)
Nuclear family (d)	-0.0786*	-0.00273	-0.00926	-0.206	-0.479	-0.433	0.00347	-0.111	-0.111	0.166	-0.793**	-0.788**
	(0.0401)	(0.0786)	(0.209)	(0.190)	(0.342)	(0.417)	(0.0883)	(0.191)	(0.162)	(0.233)	(0.393)	(0.371)
Hhd sex ratio	-0.0367***	-0.0594**	-0.159**	0.0454	0.134	0.146	0.0564*	-0.0107	-0.00571	-0.0298	-0.0280	-0.0382
	(0.0125)	(0.0247)	(0.0658)	(0.0893)	(0.0840)	(0.107)	(0.0318)	(0.0585)	(0.0605)	(0.0801)	(0.125)	(0.141)
Household size	-0.0160**	-0.0463***	-0.124***									
	(0.00631)	(0.0128)	(0.0344)									
Age of oldest member	-0.00267*	-0.00569*	-0.0152*									
	(0.00139)	(0.00313)	(0.00834)									
Inverse Mills ratio						-0.603			-0.425			-0.163
						(0.655)			(0.348)			(0.794)
mills												
lambda							-0.407	-0.306		0.629	-0.359	
							(0.409)	(0.326)		(0.921)	(1.164)	
Observations	1515	508	508	2265	783	211	2265	783	146	2265	783	155
R^2									0.168			0.057
Pseudo R^2	0.355	0.371										
Degrees of freedom	10.000	10.000	20.000	8.000	8.000	18.000	8.000	8.000	9.000	8.000	8.000	9.000
Chi-squared	506.712	188.745	389.963	39.251	40.227	2601.674	57.777	22.750	36.800	3.444	9.597	14.895
Prob > Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.904	0.294	0.094

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

5.14 Appendix E: Mechanisms

Table 5.11: Number of years of displacement for returnees in sections A and B

	Number of returnees	
Displaced for:	**Section A**	**Section B**
Less than 1 year	0	265
Less than 2 years	0	198
Less than 3 years	0	105
Less than 4 years	2	0
Less than 5 years	41	0
More than 5 years	122	0

Table 5.12: Effect of timing of return on labour market outcomes in section B

	(1)	(2)	(3)	(4)
	Participates in LF	Working	Log Wages	Number of days worked
Return within 1 year (d)	0.0312	0.0269	0.0397	0.109
	(0.0668)	(0.231)	(0.345)	(0.159)
Return within 2 years (d)	0.0101	0.428*	0.0959	0.0388
	(0.0736)	(0.245)	(0.367)	(0.181)
Return within 3 years (d)	-0.0567	0.356	-0.140	0.238
	(0.0845)	(0.338)	(0.427)	(0.195)
Sex (male=1) (d)	0.643***	-1.525***	-0.266	-0.187
	(0.0370)	(0.337)	(1.112)	(0.318)
Age	0.0960***	-0.0437	-0.0625	-0.00571
	(0.0119)	(0.0397)	(0.215)	(0.0575)
Age squared	-0.00108***	0.000561	0.00101	0.000248
	(0.000140)	(0.000438)	(0.00251)	(0.000681)
Married (d)	-0.283***	0.770**	-0.142	0.171
	(0.0851)	(0.305)	(0.431)	(0.183)
Intermediate school (d)	0.0761	0.330	0.113	0.470**
	(0.0593)	(0.255)	(0.337)	(0.196)
Nuclear family (d)	-0.00260	-0.457	-0.759*	-0.128
	(0.0784)	(0.308)	(0.398)	(0.190)
Hhd sex ratio	-0.0603**	0.171**	-0.0193	-0.0172
	(0.0248)	(0.0848)	(0.131)	(0.0596)
Household size	-0.0473***			
	(0.0129)			
Age of oldest member	-0.00570*			
	(0.00313)			
mills				
lambda			-0.433	-0.249

			(1.193)	(0.331)
Observations	508	783	783	783
Pseudo R^2	0.373			
Degrees of freedom	12.000	10.000	10.000	10.000
Chi-squared	188.262	38.633	9.904	24.133
Prob > Chi-squared	0.000	0.000	0.449	0.007

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.13: Effect of return on labour market outcomes with proxy for market size

	Participates in LF		Working		Log Wages		Number of days worked	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0579	0.206	1.163**	-0.409	0.0884	0.560*	0.245	0.0722
	(0.0627)	(0.386)	(0.469)	(0.751)	(0.119)	(0.306)	(0.355)	(0.778)
Sex (male=1) (d)	0.620***	1.933***	0.276	-1.458*	-0.245	-0.286	0.743	-0.0548
	(0.0215)	(0.157)	(1.504)	(0.785)	(0.486)	(0.350)	(1.031)	(0.745)
Age	0.0639***	0.244***	0.0442	0.0356	-0.0347	-0.0451	0.0385	-0.0319
	(0.00638)	(0.0330)	(0.195)	(0.0892)	(0.0627)	(0.0647)	(0.144)	(0.130)
Age squared	-0.000813***	-0.00274***	-0.000514	-0.000307	0.000533	0.000656	-0.000409	0.000675
	(0.0000788)	(0.000389)	(0.00246)	(0.00102)	(0.000786)	(0.000749)	(0.00181)	(0.00150)
Married (d)	-0.0162	-0.728***	0.683***	0.573	0.252**	0.280	0.0997	-0.217
	(0.0414)	(0.239)	(0.176)	(0.421)	(0.119)	(0.192)	(0.260)	(0.411)
Intermediate school (d)	0.0118	0.184	-0.143	0.428	0.346***	0.466***	0.176	0.0961
	(0.0301)	(0.164)	(0.151)	(0.273)	(0.0780)	(0.170)	(0.191)	(0.308)
Nuclear family (d)	-0.0938**	-0.00569	-0.174	-0.430	0.0175	0.0362	0.0950	-0.822**
	(0.0413)	(0.212)	(0.188)	(0.430)	(0.0912)	(0.153)	(0.239)	(0.385)
Hhd sex ratio	-0.0345***	-0.160**	0.0349	0.132	0.0641**	-0.0122	-0.0393	-0.0356
	(0.0125)	(0.0654)	(0.0918)	(0.108)	(0.0326)	(0.0594)	(0.0797)	(0.142)
Household size	-0.0175***	-0.127***						
	(0.00642)	(0.0347)						
Age of oldest member	-0.00303**	-0.0151*						

	(0.00142)	(0.00837)						
Number of NBCers in community	0.0000780	-0.000329	-0.000108	0.00106	-0.000377	-0.00254***	-0.00134**	0.000329
	(0.0000893)	(0.00120)	(0.000471)	(0.00219)	(0.000242)	(0.000912)	(0.000638)	(0.00227)
Inverse Mills Ratio				-0.434		-0.386		-0.244
				(0.689)		(0.340)		(0.802)
mills								
lambda					-0.464		0.768	
					(0.431)		(0.925)	
Observations	1484	499	2231	207	2231	144	2231	153
R^2						0.274		0.060
Pseudo R^2	0.359							
Degrees of freedom	11.000	21.000	9.000	17.000	9.000	10.000	9.000	10.000
Chi-squared	497.602	.	39.339	.	61.286	58.268	11.347	15.669
Prob > Chi-squared	0.000	.	0.000	.	0.000	0.000	0.253	0.109

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.14: Differences in employment in construction sector by return in section A and section B

	Section A			**Section B**		
	Mean		**Diff.**	**Mean**		**Diff.**
Variable	Return	Displaced		Return	Displaced	
Employed in	0.36	0.34	0.02	0.34	0.41	−0.06
construction sector	0.04	0.07	0.08	0.08	0.02	0.08
Males employed in	0.42	0.43	-0.009	0.39	0.47	-0.08
construction sector	(0.05)	(0.09)	(0.097)	(0.09)	(0.03)	(0.09)

Table 5.15: Effect of return on labour market outcomes controlling for social capital

	Participates in LF		Working		Log Wages		Number of days worked	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0574	0.0612	1.216***	0.0764	0.0233	0.313	-0.0984	0.148
	(0.0610)	(0.214)	(0.440)	(0.391)	(0.118)	(0.242)	(0.353)	(0.481)
Sex (male=1) (d)	0.609***	1.961***	0.208	-1.435**	-0.428	-0.410	0.903	0.0175
	(0.0218)	(0.155)	(0.936)	(0.642)	(0.478)	(0.365)	(0.999)	(0.751)
Age	0.0647***	0.252***	0.0324	0.108	-0.0512	-0.0433	0.0921	-0.00980
	(0.00644)	(0.0323)	(0.128)	(0.0825)	(0.0642)	(0.0720)	(0.143)	(0.133)
Age squared	-0.000828***	-0.00282***	-0.000361	-0.00129	0.000737	0.000685	-0.00109	0.000406
	(0.0000800)	(0.000379)	(0.00161)	(0.000963)	(0.000806)	(0.000827)	(0.00181)	(0.00154)
Married (d)	-0.0223	-0.748***	0.719***	0.758**	0.241**	0.273	0.152	-0.195
	(0.0411)	(0.237)	(0.177)	(0.365)	(0.119)	(0.216)	(0.265)	(0.401)
Intermediate school (d)	0.0182	0.213	-0.141	0.251	0.355***	0.494***	0.233	0.0967
	(0.0299)	(0.164)	(0.146)	(0.276)	(0.0805)	(0.180)	(0.197)	(0.306)
Nuclear family (d)	-0.0835**	-0.0140	-0.247	-0.277	0.0237	-0.104	0.0463	-0.776**
	(0.0403)	(0.211)	(0.173)	(0.403)	(0.0944)	(0.162)	(0.245)	(0.375)
Hhd sex ratio	-0.0402***	-0.157**	0.0329	0.128	0.0665*	-0.00135	-0.0811	-0.0371
	(0.0129)	(0.0660)	(0.0803)	(0.105)	(0.0352)	(0.0603)	(0.0879)	(0.141)
Household size	-0.0158**	-0.131***						
	(0.00627)	(0.0356)						
Age of oldest member	-0.00259*	-0.0140*						

	(0.00140)	(0.00830)						
Number of relatives	-0.000795	0.00449	-0.00479	-0.0355***	-0.000792	-0.000896	-0.0194***	-0.00294
	(0.000821)	(0.00402)	(0.00377)	(0.00845)	(0.00242)	(0.00366)	(0.00549)	(0.00816)
Family size	0.0138	0.0205	0.185*	-0.0438	0.104*	-0.0915	0.257	-0.0297
	(0.0236)	(0.109)	(0.107)	(0.196)	(0.0613)	(0.0920)	(0.163)	(0.201)
Inverse Mills Ratio				-0.208		-0.421		-0.104
				(0.583)		(0.348)		(0.808)
mills								
lambda					-0.584		0.930	
					(0.430)		(0.900)	
Observations	1477	508	2213	211	2213	146	2213	155
R^2						0.177		0.059
Pseudo R^2	0.350							
Degrees of freedom	12.000	24.000	10.000	22.000	10.000	11.000	10.000	11.000
Chi-squared	486.596	384.750	45.404	2233.576	57.943	40.266	15.843	15.229
Prob > Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.104	0.172

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.16: Probit model: Effect of return on labour market outcomes for female sample

	Participates in LF		Working	Number of days worked		Wages	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	A	B: IV	A	A	B: IV	A	B: IV
Individual returned (d)	-0.00165	0.527	6.736***	0.414	0.198	0.201	0.0388
	(-0.05)	(1.36)	(3.12)	(1.34)	(0.42)	(0.17)	(0.06)
Age	0.0266***	0.228***	-0.0262	-0.0674	-0.225	0.752	0.0104
	(7.92)	(4.17)	(-0.08)	(-0.18)	(-1.64)	(0.64)	(0.03)
Age squared	-0.000347***	-0.00268***	0.000490	0.000915	0.00283	-0.00933	0.000176
	(-8.13)	(-4.09)	(0.11)	(0.19)	(1.64)	(-0.63)	(0.04)
Married (d)	-0.0900***	-1.125***	1.060**	0.564	1.155*	-1.827	-0.197
	(-3.74)	(-3.51)	(2.42)	(0.63)	(1.65)	(-0.69)	(-0.11)
Intermediate school (d)	0.0610***	0.712**	-0.197	0.405	0.724**	2.802	-1.181
	(3.24)	(2.15)	(-0.32)	(0.47)	(2.18)	(1.00)	(-0.80)
Nuclear family (d)	0.000976	-0.257	-0.236	0.306	0.360	-0.0800	0.719
	(0.04)	(-0.90)	(-0.70)	(1.20)	(1.00)	(-0.07)	(0.98)
Hhd sex ratio	-0.0106	-0.175	-0.0279	0.0427	0.186	0.00374	-0.900***
	(-0.97)	(-0.98)	(-0.09)	(0.33)	(1.48)	(0.01)	(-2.76)
Household size	-0.00172	-0.125**					
	(-0.45)	(-2.35)					
Age of oldest member	-0.000125	0.00728					
	(-0.16)	(0.66)					
Inverse Mills ratio					-1.360*		-0.612
					(-1.86)		(-0.35)
mills							
lambda				-0.647		5.646	
				(-0.28)		(0.84)	
Observations	775	253	1163	1163	31	1163	32
Pseudo R^2	0.128						
Degrees of freedom	9.000	18.000	7.000	7.000	8.000	7.000	8.000
Chi-squared	55.611	138.583	545.348	17.374	52.355	1.518	23.944
Prob > Chi-squared	0.000	0.000	0.000	0.015	0.000	0.982	0.002

Marginal effects; t statistics in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.17: Probit model: Effect of return on labour market outcomes for male sample

	Participates in LF		Working		Number of days worked		Wages	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0873	-0.0903	0.800	0.141	-0.0363	0.288	-0.00377	0.504

	(1.26)	(-0.26)	(1.57)	(0.38)	(-0.21)	(0.97)	(-0.01)	(0.85)
Age	0.0512***	0.194***	0.116	0.0720	-0.118	-0.0117	-0.198	0.190
	(5.77)	(4.76)	(0.97)	(0.87)	(-0.99)	(-0.11)	(-1.06)	(1.19)
Age squared	-0.000713***	-0.00237***	-0.00147	-0.000848	0.00170	0.000390	0.00272	-0.00192
	(-6.81)	(-5.07)	(-0.95)	(-0.84)	(1.11)	(0.31)	(1.12)	(-1.01)
Married (d)	0.244***	0.449	0.820***	0.879**	-0.402	-0.226	-0.650	0.600
	(3.33)	(1.12)	(4.15)	(2.05)	(-0.91)	(-0.53)	(-1.21)	(0.75)
Intermediate school (d)	-0.0907**	0.0650	-0.201	0.492*	0.391***	0.301	0.293	0.449
	(-2.38)	(0.26)	(-1.33)	(1.79)	(2.93)	(1.41)	(1.09)	(1.27)
Nuclear family (d)	-0.111**	0.405	-0.216	-0.0423	-0.0425	-0.531*	0.267	-0.820
	(-2.49)	(1.40)	(-1.34)	(-0.09)	(-0.28)	(-1.89)	(0.95)	(-1.38)
Hhd sex ratio	-0.0100	-0.0896	0.0332	0.0842	0.0320	-0.0410	-0.0475	0.0849
	(-0.69)	(-1.07)	(0.50)	(0.83)	(0.65)	(-0.69)	(-0.54)	(0.70)
Household size	-0.0177**	-0.156***						
	(-2.07)	(-3.11)						
Age of oldest member	-0.00382*	-0.0203*						
	(-1.78)	(-1.72)						
Inverse Mills ratio				0.316		-0.597		1.720
				(0.43)		(-0.77)		(1.31)
mills lambda					-1.316		-1.353	
					(-1.46)		(-1.02)	
Observations	740	255	1102	173	1102	115	1102	123
Pseudo R^2	0.228							
Degrees of freedom	9.000	18.000	7.000	15.000	7.000	8.000	7.000	8.000
Chi-squared	126.040	177.321	47.018	.	19.574	35.667	3.253	33.959
Prob > Chi-squared	0.000	0.000	0.000	.	0.007	0.000	0.861	0.000

Marginal effects; t statistics in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.18: Differences in skilled work by return in section A and section B

	Section A			**Section B**		
	Mean		**Diff.**	**Mean**		**Diff.**
Variable	Return	Displaced		Return	Displaced	
Skilled workers	0.38	0.40	−0.02	0.16	0.28	−0.13*
	(0.04)	(0.07)	(0.08)	(0.06)	(0.02)	(0.08)
Male skilled workers	0.31	0.31	0.00	0.1	0.24	−0.14*
	(0.05)	(0.08)	(0.09)	(0.05)	(0.02)	(0.08)
Female skilled workers	0.67	0.67	0.00	0.43	0.56	−0.13
	(0.10)	(0.14)	(0.17)	(0.20)	(0.06)	(0.20)

Table 5.19: Differences in education by return in section A and section B (those younger than 23)

	Section A			**Section B**		
	Mean		**Diff.**	**Mean**		**Diff.**
Variable	Return	Displaced		Return	Displaced	
Ever attended school	0.94	0.97	−0.02	0.98	0.93	0.05*
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.03)
Currently attending school	0.75	0.84	−0.09*	0.70	0.65	0.05
	(0.03)	(0.03)	(0.05)	(0.05)	(0.02)	(0.05)
Attended primary school only	0.40	0.32	0.08	0.51	0.46	0.05
	(0.03)	(0.04)	(0.05)	(0.05)	(0.02)	(0.06)
Attended intermediate school only	0.31	0.28	0.02	0.24	0.31	−0.07
	(0.03)	(0.04)	(0.05)	(0.05)	(0.01)	(0.05)
Attended secondary school only	0.08	0.11	−0.02	0.05	0.08	−0.02
	(0.02)	(0.03)	(0.03)	(0.02)	(0.01)	(0.03)
Attended university or vocational school	0.17	0.19	−0.02	0.13	0.1	0.03
	(0.02)	(0.04)	(0.04)	(0.04)	(0.01)	(0.03)

Table 5.20: Effect of return on labour market outcomes excluding those younger than 23

	Participates in LF		Working		Log Wages		Number of days worked	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0648	0.0851	4.880***	0.413	0.0667	0.286	0.0226	0.287
	(0.0652)	(0.257)	(0.275)	(0.411)	(0.132)	(0.280)	(0.381)	(0.600)
Sex (male=1) (d)	0.654***	2.121***	0.210	-5.546***	0.108	-1.154*	0.532	-1.161
	(0.0248)	(0.179)	(1.598)	(1.022)	(0.431)	(0.663)	(1.097)	(1.391)
Age	0.0453***	0.274***	0.0256	-0.0600	-0.0240	-0.160**	0.0245	-0.0707
	(0.00944)	(0.0480)	(0.116)	(0.134)	(0.0385)	(0.0815)	(0.115)	(0.161)
Age squared	-0.000624***	-0.00307***	-0.000264	0.000542	0.000352	0.00198**	-0.000229	0.00118
	(0.000105)	(0.000534)	(0.00158)	(0.00156)	(0.000496)	(0.000937)	(0.00148)	(0.00185)
Married (d)	-0.0357	-0.777***	0.703***	0.966**	0.263**	0.532*	0.105	-0.0528
	(0.0487)	(0.267)	(0.193)	(0.407)	(0.132)	(0.279)	(0.286)	(0.509)
Intermediate school (d)	0.0886**	0.318*	0.0486	0.381	0.355***	0.445***	0.479**	-0.0894
	(0.0360)	(0.191)	(0.218)	(0.337)	(0.0968)	(0.158)	(0.234)	(0.343)
Nuclear family (d)	-0.0845*	0.131	-0.275	-0.403	0.00731	-0.220	0.108	-0.895**
	(0.0505)	(0.255)	(0.210)	(0.560)	(0.0960)	(0.157)	(0.257)	(0.456)
Hhd sex ratio	-0.0355**	-0.185**	0.0466	0.0104	0.0547*	0.00984	0.0680	0.0262
	(0.0157)	(0.0789)	(0.0950)	(0.131)	(0.0329)	(0.0809)	(0.0859)	(0.173)
Household size	-0.0193**	-0.101**						
	(0.00821)	(0.0435)						
Age of oldest member	-0.00313*	-0.00713						

	(0.00171)	(0.00971)						
Inverse Mills ratio				0.362		-1.120*		-1.352
				(1.181)		(0.607)		(1.497)
mills								
lambda					-0.125		0.580	
					(0.384)		(1.007)	
Observations	1104	361	1106	170	1106	126	1106	137
R^2						0.138		0.069
Pseudo R^2	0.387							
Degrees of freedom	10.000	20.000	8.000	17.000	8.000	9.000	8.000	9.000
Chi-squared	420.022	297.851	1108.933	.	36.954	34.768	7.018	13.443
Prob > Chi-squared	0.000	0.000	0.000	.	0.000	0.000	0.535	0.144

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

5.15 Appendix F: Robustness Checks

Table 5.21: Effect of return on labour market outcomes excluding those who do not want to return

	Participates in LF		Working		Log Wages		Number of days worked	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0506	0.0391	1.152**	0.0482	0.0262	0.388	0.00459	-0.0256
	(0.0613)	(0.213)	(0.450)	(0.376)	(0.115)	(0.249)	(0.354)	(0.480)
Sex (male=1) (d)	0.630***	1.936***	0.176	-1.706**	-0.309	-0.459	0.697	0.0965
	(0.0217)	(0.154)	(1.362)	(0.712)	(0.480)	(0.364)	(1.089)	(0.744)
Age	0.0674***	0.251***	0.0173	0.0148	-0.0321	-0.0497	0.0565	-0.00137
	(0.00660)	(0.0320)	(0.181)	(0.0879)	(0.0631)	(0.0709)	(0.153)	(0.130)
Age squared	-0.000860***	-0.00281***	-0.000175	-0.000118	0.000509	0.000766	-0.000622	0.000299
	(0.0000817)	(0.000376)	(0.00229)	(0.00103)	(0.000792)	(0.000817)	(0.00193)	(0.00150)
Married (d)	-0.0395	-0.742***	0.674***	0.687**	0.249**	0.265	0.0606	-0.221
	(0.0418)	(0.237)	(0.176)	(0.348)	(0.109)	(0.207)	(0.251)	(0.402)
Intermediate school (d)	0.00215	0.190	-0.118	0.414	0.351***	0.517***	0.178	0.122
	(0.0303)	(0.164)	(0.143)	(0.258)	(0.0763)	(0.178)	(0.195)	(0.309)
Nuclear family (d)	-0.0664	-0.00633	-0.196	-0.439	0.00362	-0.113	0.200	-0.773**
	(0.0405)	(0.209)	(0.169)	(0.419)	(0.0871)	(0.165)	(0.228)	(0.368)
Hhd sex ratio	-0.0417***	-0.159**	0.0473	0.147	0.0646**	0.00518	-0.0443	-0.0713
	(0.0128)	(0.0669)	(0.0889)	(0.109)	(0.0322)	(0.0636)	(0.0806)	(0.144)
Household size	-0.0158**	-0.123***						
	(0.00642)	(0.0343)						
Age of oldest member	-0.00286**	-0.0150*						
	(0.00141)	(0.00832)						
Inverse Mills ratio				-0.611		-0.468		-0.0977
				(0.660)		(0.351)		(0.798)
mills lambda					-0.476		0.688	
					(0.424)		(0.968)	
Observations	1462	504	2189	209	2189	144	2189	153
R^2						0.161		0.063
Pseudo R^2	0.368							
Degrees of freedom	10.000	20.000	8.000	18.000	8.000	9.000	8.000	9.000
Chi-squared	502.899	386.274	37.182	2675.206	60.834	36.699	3.373	14.690
Prob > Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.909	0.100

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.22: Effect of return on labour market outcomes for one sample

	(1)	(2)	(3)	(4)
	Participates in LF	Working	Log Wages	Number of days worked
Early return (d)	0.0190	0.219	0.0901	-0.110
	(0.0540)	(0.222)	(0.126)	(0.312)
Late return (d)	0.0347	0.868***	0.0129	0.115
	(0.0516)	(0.287)	(0.110)	(0.294)
Sex (male=1) (d)	0.620***	-0.332	-0.217	0.300
	(0.0185)	(0.909)	(0.300)	(0.795)
Age	0.0705***	-0.00476	-0.0219	0.00577
	(0.00552)	(0.126)	(0.0427)	(0.121)
Age squared	-0.000866***	0.000106	0.000401	0.0000883
	(0.0000672)	(0.00155)	(0.000527)	(0.00149)
Married (d)	-0.0726**	0.677***	0.214**	0.00612
	(0.0370)	(0.149)	(0.0918)	(0.203)
Intermediate school (d)	0.0308	-0.0589	0.374***	0.172
	(0.0268)	(0.127)	(0.0733)	(0.162)
Nuclear family (d)	-0.0631*	-0.218	-0.0209	-0.00653
	(0.0356)	(0.155)	(0.0792)	(0.193)
Hhd sex ratio	-0.0398***	0.0594	0.0349	-0.0302
	(0.0111)	(0.0603)	(0.0279)	(0.0673)
Household size	-0.0211***			
	(0.00563)			
Age of oldest member	-0.00355***			
	(0.00128)			
From section A (d)	0.0112	-0.170	0.0650	0.257
	(0.0457)	(0.190)	(0.111)	(0.278)
mills				
lambda			-0.380	0.374
			(0.284)	(0.750)
Observations	2023	3048	3048	3048
Pseudo R^2	0.350			
Degrees of freedom	12.000	10.000	10.000	10.000
Chi-squared	682.806	58.502	85.497	7.540
Prob > Chi-squared	0.000	0.000	0.000	0.674

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.23: Effect of return on labour market outcomes controlling for contacts

	Participates in LF		Working		Log Wages		Number of days worked	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0648	0.0636	1.259***	0.135	0.166	0.348	0.172	0.143
	(0.0614)	(0.220)	(0.483)	(0.433)	(0.116)	(0.230)	(0.359)	(0.513)
Sex (male=1) (d)	0.613***	1.952***	0.401	-1.757**	-0.00186	-0.321	0.626	-0.254
	(0.0215)	(0.154)	(1.492)	(0.742)	(0.426)	(0.334)	(1.018)	(0.705)
Age	0.0651***	0.249***	0.0586	0.0161	0.00243	-0.00916	0.0378	-0.0721
	(0.00642)	(0.0322)	(0.199)	(0.0890)	(0.0568)	(0.0651)	(0.145)	(0.126)
Age squared	-0.000832***	-0.00279***	-0.000683	-0.000147	0.0000651	0.000302	-0.000395	0.00110
	(0.0000796)	(0.000380)	(0.00252)	(0.00103)	(0.000713)	(0.000750)	(0.00183)	(0.00146)
Married (d)	-0.0225	-0.734***	0.645***	0.766**	0.259**	0.202	0.0705	-0.0337
	(0.0406)	(0.239)	(0.192)	(0.368)	(0.111)	(0.195)	(0.259)	(0.402)
Intermediate school (d)	0.0151	0.190	-0.171	0.426	0.326***	0.525***	0.149	0.128
	(0.0296)	(0.163)	(0.150)	(0.260)	(0.0717)	(0.176)	(0.195)	(0.305)
Nuclear family (d)	-0.0688*	0.00912	-0.211	-0.437	-0.0313	-0.203	0.145	-0.733**
	(0.0406)	(0.210)	(0.169)	(0.417)	(0.0848)	(0.168)	(0.235)	(0.372)
Hhd sex ratio	-0.0383***	-0.166**	0.0225	0.121	0.0470	-0.00239	-0.0446	-0.00186
	(0.0127)	(0.0664)	(0.0977)	(0.110)	(0.0311)	(0.0612)	(0.0824)	(0.138)
Household size	-0.0159**	-0.130***						
	(0.00627)	(0.0350)						
Age of oldest member	-0.00255*	-0.0145*						

	(0.00139)	(0.00847)						
Contact with UNRWA (d)	0.0440	0.0277	0.188	0.623**	0.338***	0.273*	0.409	-0.179
	(0.0403)	(0.190)	(0.175)	(0.315)	(0.0952)	(0.162)	(0.254)	(0.346)
Contact with popular committee (d)	-0.0511	-0.258	0.355	-0.336	0.0917	0.277	0.222	-0.303
	(0.0440)	(0.214)	(0.233)	(0.352)	(0.0987)	(0.175)	(0.268)	(0.466)
Inverse Mills ratio				-0.628		-0.281		-0.428
				(0.664)		(0.322)		(0.757)
mills								
lambda					-0.244		0.643	
					(0.383)		(0.921)	
Observations	1507	506	2251	210	2251	145	2251	154
R^2						0.203		0.062
Pseudo R^2	0.354							
Degrees of freedom	12.000	24.000	10.000	22.000	10.000	11.000	10.000	11.000
Chi-squared	501.207	407.184	43.415	2260.979	86.156	44.277	8.127	14.302
Prob > Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.616	0.217

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5.24: Effect of return on labour market outcomes controlling for wealth

	Participates in LF		Working		Log Wages		Number of days worked	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A	B: IV	A	B: IV	A	B: IV	A	B: IV
Individual returned (d)	0.0742	-0.118	1.250***	-0.0562	0.135	0.194	0.152	0.0702

	(0.0629)	(0.217)	(0.440)	(0.404)	(0.110)	(0.236)	(0.355)	(0.480)
Sex (male=1) (d)	0.617***	1.970***	0.148	-1.644**	-0.415	-0.542*	0.174	-0.00476
	(0.0215)	(0.157)	(0.656)	(0.727)	(0.404)	(0.303)	(0.847)	(0.697)
Age	0.0641***	0.250***	0.0302	0.0299	-0.0408	-0.0779	0.00195	-0.00999
	(0.00642)	(0.0319)	(0.0912)	(0.0844)	(0.0539)	(0.0594)	(0.122)	(0.120)
Age squared	-0.000823***	-0.00280***	-0.000340	-0.000296	0.000549	0.00101	-0.00000313	0.000364
	(0.0000800)	(0.000377)	(0.00116)	(0.000977)	(0.000679)	(0.000683)	(0.00155)	(0.00139)
Married (d)	-0.0155	-0.739***	0.676***	0.626*	0.259**	0.429**	0.0897	-0.136
	(0.0406)	(0.245)	(0.170)	(0.369)	(0.111)	(0.191)	(0.251)	(0.418)
Intermediate school (d)	0.00267	0.134	-0.229	0.335	0.224***	0.308*	-0.0241	-0.0687
	(0.0308)	(0.170)	(0.147)	(0.272)	(0.0760)	(0.177)	(0.197)	(0.298)
Nuclear family (d)	-0.0852**	0.0188	-0.235	-0.358	0.0158	0.0649	0.193	-0.675*
	(0.0403)	(0.210)	(0.170)	(0.417)	(0.0885)	(0.156)	(0.227)	(0.356)
Hhd sex ratio	-0.0447***	-0.158**	-0.00421	0.113	0.00656	0.00632	-0.0854	-0.0454
	(0.0132)	(0.0667)	(0.0743)	(0.108)	(0.0357)	(0.0540)	(0.0848)	(0.138)
Household assets	0.0270	0.102	0.225**	0.273**	0.257***	0.182***	0.461***	0.249**
	(0.0201)	(0.0740)	(0.0976)	(0.129)	(0.0619)	(0.0595)	(0.134)	(0.112)
Household expenses	0.0000207	-0.0000236	-0.0000126	-0.000253*	0.0000548	0.0000710	-0.0000845	-0.000116
	(0.0000222)	(0.000101)	(0.0000941)	(0.000148)	(0.0000598)	(0.0000739)	(0.000122)	(0.000161)
Household size	-0.0195***	-0.132***						
	(0.00653)	(0.0369)						
Age of oldest member	-0.00288**	-0.0156*						
	(0.00141)	(0.00894)						

Inverse Mills ratio				-0.534		-0.659**		-0.149
				(0.606)		(0.279)		(0.720)
mills								
lambda					-0.619*		0.259	
					(0.361)		(0.757)	
Observations	1502	500	2242	208	2242	144	2242	153
R^2						0.283		0.081
Pseudo R^2	0.358							
Degrees of freedom	12.000	24.000	10.000	22.000	10.000	11.000	10.000	11.000
Chi-squared	500.444	462.063	41.991	2833.731	102.414	95.299	19.450	20.411
Prob > Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.035	0.040

Marginal effects; Standard errors in parentheses

(d) for discrete change of dummy variable from 0 to 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Chapter 6

Conclusion

This thesis has shown that the formation of social capital is a complex process. I have explored social capital in two contexts, amongst households living amidst communal violence or riots in urban Maharashtra, and amongst IDPs and returnees from Nahr el–Bared camp in Lebanon. I have also studied the economic implications of returning home through an analysis of labour market effects, and tested to see if social capital is a mechanism behind these changes.

There are four main conclusions that bring together the main results from the three empirical chapters. Firstly, conflict, explored through riots and return after conflict induced displacement, has different effects on the different forms of social capital. Secondly, any positive impacts on social capital are fragile, depending on the social composition of an individual's neighbourhood and the timing of returning home after conflict induced displacement. Thirdly, returning home can improve economic opportunities. And lastly, social capital also plays an unexpected role in labour markets, where the number of family and relatives an individual has living in their community decreases the likelihood of working and the number of days worked per week. In the following paragraphs I summarise the main empirical chapters and how they tie in to these four conclusions.

Chapter 3 finds that households living in neighbourhoods that have experienced a riot are more likely to be members of groups and organisations, consistent with the literature that has found a positive effect between conflict and social capital (see, for example Bozzoli et al. (2011)). However, we also find that these households are less likely to join community discussions, which is consistent with the literature that finds a negative relationship between conflict and social capital (see, for example Colletta and Cullen (2000)).

We also find that these effects are strongest in socially diverse but stable neighbourhoods. We interpret these results to indicate that households living in socially diverse and riot prone neighbourhoods invest in bridging social capital through joining groups and organisations, which can serve as protection in case of future riots. If the new relationships and networks that result from increased membership include individuals from other social groups, which is most likely to be true in diverse neighbourhoods, then households can

draw from these networks in times of need, particularly when faced with threats from other members of opposing social groups. Because this potential pay–off to increased membership is smaller when neighbourhoods are homogeneous, riots do not increase membership in groups or organisations when fractionalisation and polarisation are low. This result is further substantiated by the vignette analysis which finds that respondents in riot affected neighbourhoods are no more and no less willing to give money in an emergency to someone with whom they share a social identity. By refusing to differentiate, these households could be trying to build networks and establish a system of reciprocity. By giving money to someone the respondent can claim a favour in the future, and if this person belongs to a different social group, this favour could be protection during a communal riot.

While it is clear that riots cause an increase in membership in organisations, this positive relationship is not observed for other forms of social capital under study. Riots cause a reduction in participation in community discussions, trust is reduced in fragmented and polarised riot–affected neighbourhoods, and participation in festival preparation decreases in riot exposed neighbourhoods with low out–migration. It is possible that we see these opposite effects because membership in groups and organisations represent a 'superficial' level of social capital, whereas trust and community discussions/festival preparations delve beneath this surface level to reveal the true sense of community.

This chapter has also revealed an interesting role played by migration. When neighbourhood out–migration is low, the effect of riots increasing membership in groups and organisations, as well as decreasing trust and participation in community discussions and festival preparations, is greatest. When neighbourhood out–migration is high, we do not see an effect of riots on forms of social capital, except for an increase in trust, an opposite effect to what we have seen throughout the results of chapter 3. We explain these results as a dis–investment in social capital by migration. Those who migrate were those whose social capital was most affected by riots and left as a result, leaving behind the more invested community members.

Chapter 4 finds that in section A of Nahr el–Bared camp returning home decreases average social capital compared to remaining displaced (particularly lower bonding, non–institutional and weak social capital). In section B of Nahr el–Bared camp returning home increases non–institutional social capital. Again, we see that the unpacking of social capital into different dimensions can yield different results. What is more interesting is how these results are opposite in sections A and B of the camp. I find that this discrepancy is caused by a difference in the return process, and that the positive effect of return is felt most for those who return home early with friends and family, but if households remain displaced for a long time, return will decrease social capital compared to the displaced.

Social capital proves to be a non–transferable asset, difficult to move across time and space. One does not simply reconnect and re–establish social capital as it once was, but it will take time to be rebuilt upon returning home. This conclusion might be somewhat obvious, however I have illustrated that the destruction of social capital has taken approximately five years to recover, a long time for households dependent on social support as

a coping strategy during hard times. Displacement is a traumatic and damaging experience, and before imposing solutions, it is important to understand the coping strategies, informal institutions and social dynamics that are in place, and the implications for return.

Chapter 5 finds that returning home after conflict induced displacement increases the likelihood of working by 117 percentage points. Further analysis finds that this result is greatest for those returning within two years, when aggregate demand and the economy has picked up after the war. In addition, this chapter finds that women returnees are those more likely to be working (by 673 percentage points), whereas return has no effect on men finding work. I interpret this result as indicating that women, who possess more adaptable skills than the specialised skills that men possess, are able to adapt to the labour demands of a post-war economic market. This could involve cottage type industry work that can be done from home. These results are signs of economic recovery upon return. However, one still needs to be cautious, since these opportunities are mostly within the low–skilled markets, with limited capacity for development.

In addition, this chapter has analysed the effect of two exogenous measures of social capital, the number of family and relatives living in the community and the relative family size, on individual level labour market outcomes. Perception of family size relative to other Palestinians has a positive effect on the likelihood of working and wages, whereas the number of family and friends living within the individual's community has a negative relationship with these labour market outcomes. Family is certainly an important factor in finding work, but it could be that when they are too close to home they serve as more of a distraction than an aid. This result ties into the literature on the 'bad side of social capital', which shows that the social networks that you are born with can be one of the factors leading to a poverty trap (Durlauf, 2006). Ultimately, chapter 5 did not find that social capital was the mechanism causing an increase in the likelihood of working upon returning home.

This thesis shows that social capital is fragile, and can be destroyed under certain conditions. Policies that are targeted towards victims of violence and returning IDPs and refugees will need to take some of the lessons learnt in this thesis into account. In fragmented and polarised neighbourhoods, priority must be given to bridging social capital beyond networks formed through groups and organisations. Underlying trust, and a sense of a shared community, between Muslims and Hindus living in urban areas in India should be built in order to prevent future communal violence. This can take the form of public awareness campaigns that promote a shared identity rather than two opposing groups. In addition, neighbourhoods that have had very high levels of out–migration need to be further researched. If these neighbourhoods are those disproportionately affected by riots and dis–investments in social capital, it could be that the minorities are forced out of neighbourhoods, and support needs to be given to these migrant households.

Initially, social capital can suffer upon returning home after conflict induced displacement, and although it will naturally revert to previous levels (if not higher), some support can be given to speed up this process. For example, financial support can be given to local

groups and associations that encourage individuals to meet, socialise and build networks. Social spaces (in the form of libraries, cafes, and club houses ...) can be created to allow returnee households to socialise and meet regularly if they do not have the space to do this immediately. Fun activities and social events can be organised that bring together returnees once they arrive home. Furniture can be provided to households to allow them to set up house and entertain and socialise with friends and family upon return.

In addition, investments in better economic opportunities for men and women which require use of skills should be a priority before sending IDPs and refugees back home. Rebuilding an economy and labour market from scratch is not a simple task and will not happen automatically. Coupled with investments to improve social capital, investments in businesses that require skilled workers will be essential for post–conflict social and economic recovery.

Victims of conflict and communal violence are slowly increasing in number, although fortunately not yet reaching the levels of the early 1990s. However, intra–ethnic tension remains a universal issue. For example, we have seen destructive relationships between hosts and refugees in Europe, Shia'a and Sunni in Syria and Iraq, Hindus and Muslims in India, and Christians and Muslims in France and Lebanon. This thesis has applicable lessons for ways in which intra–ethnic or bridging social capital can be formed in each of these cases. In addition, the number of refugees and IDPs is reaching levels higher than those seen in World War II, and governments and agencies are offering varying levels and types of support. As of writing, the revolutions and conflicts in the Arab world have generated millions of refugees, and once the conflict ends, a top concern will be the return of these households and support to the victims of violence. Whether living in camps, with friends or family, or moving to a new city or country, conflict induced displacement is a protracted, traumatic, uncertain and sometimes isolating process, with implications for the social capital and economic opportunities of refugees, IDPs and returnees that ought to be considered.

Bibliography

Alberto Abadie and Javier Gardeazabal. The economic costs of conflict: A case study of the Basque Country. *American economic review*, pages 113–132, 2003.

Tony Addison and Tilman Brück. Making peace work: the challenges of social and economic reconstruction, 2008.

George Akerlof. The economics of caste and of the rat race and other woeful tales. *The Quarterly Journal of Economics*, pages 599–617, 1976.

George A Akerlof and Rachel E Kranton. Economics and identity. *Quarterly journal of Economics*, pages 715–753, 2000.

Alberto Alesina and Eliana La Ferrara. Participation in heterogeneous communities. *The Quarterly Journal of Economics*, 115(3):847–904, 2000. ISSN 00335533, 15314650. URL `http://www.jstor.org/stable/2586898`.

Alberto Alesina and Eliana La Ferrara. Who trusts others? *Journal of Public Economics*, 85(2):207–234, 2002.

Alberto Alesina and Eliana La Ferrara. Ethnic diversity and economic performance. *Journal of Economic Literature*, 43(3):762–800, 2005. ISSN 00220515. URL `http://www.jstor.org/stable/4129475`.

Alberto Alesina, Reza Baqir, and William Easterly. Public goods and ethnic divisions. *The Quarterly Journal of Economics*, 114(4):1243–1284, 1999. ISSN 00335533, 15314650. URL `http://www.jstor.org/stable/2586963`.

Cheryl S Alexander and Henry Jay Becker. The use of vignettes in survey research. *Public opinion quarterly*, 42(1):93–104, 1978.

Jennifer Alix-Garcia and Anne Bartlett. Occupations under fire: the labour market in a complex emergency. *Oxford Economic Papers*, 2015. doi: 10.1093/oep/gpv006. URL `http://oep.oxfordjournals.org/content/early/2015/02/27/oep.gpv006.abstract`.

Joshua David. Angrist and Jörn-Steffen. Pischke. *Mostly harmless econometrics: an empiricist's companion*. Princeton University Press, Princeton, N.J, 2009. ISBN 9780691120348; 9780691120355; 069112034X; 0691120358. URL `http://capitadiscovery.co.uk/sussex-ac/items/985075`.

Kenneth J Arrow. Observations on social capital. In Partha Dasgupta and Ismail Serageldin, editors, *Social capital: A multifaceted perspective*, pages 3–5. Washington, DC: World Bank, 2001.

Christiane Atzmüller and Peter M Steiner. Experimental vignette studies in survey research. *Methodology*, 2010.

Robert Axelrod and William Donald Hamilton. The evolution of cooperation. *Science*, 211(4489):1390–1396, 1981.

Wayne E Baker. Market networks and corporate behavior. *American journal of sociology*, pages 589–625, 1990.

Abhijit Banerjee and Rohini Somanathan. The political economy of public goods: Some evidence from India. *Journal of development Economics*, 82(2):287–314, 2007.

Pranab Bardhan. *Scarcity, conflicts, and cooperation*. MIT Press, 2005.

Charles M Becker, Jeffrey G Williamson, and Edwin S Mills. *Indian urbanization and economic growth since 1960*. Johns Hopkins University Press, Baltimore Maryland/London England, 1992.

Gary S Becker. Investment in human capital: A theoretical analysis. *The journal of political economy*, pages 9–49, 1962.

Gary S. Becker. Crime and punishment: An economic approach. *Journal of Political Economy*, 76(2):169–217, 1968. ISSN 00223808, 1537534X. URL `http://www.jstor.org/stable/1830482`.

John Bellows and Edward Miguel. War and local collective action in Sierra Leone. *Journal of Public Economics*, 93(11–12):1144–1157, 2009.

Roland Benabou. Workings of a city: Location, education, and production. *The Quarterly Journal of Economics*, 108(3):619–652, 1993. ISSN 00335533, 15314650. URL `http://www.jstor.org/stable/2118403`.

Richard Black and Saskia Gent. Sustainable return in post-conflict contexts. *International Migration*, 44(3):15–38, 2006.

Christopher Blattman. From violence to voting: War and political participation in Uganda. *American Political Science Review*, 103(02):231–247, 2009.

Christopher Blattman and Jeannie Annan. The consequences of child soldiering. *The review of economics and statistics*, 92(4):882–898, 2010.

John Bohstedt. Gender, household and community politics: women in English riots 1790-1810. *Past & Present*, 120:88–122, 1988.

Pierre Bourdieu. The forms of capital. In John G. Richardson, editor, *Handbook of Theory and Research for the Sociology of Education*. Greenwood Press, Inc., Connecticut, 1986.

Samuel Bowles and Herbert Gintis. Persistent parochialism: trust and exclusion in ethnic networks. *Journal of Economic Behavior & Organization*, 55(1):1–23, 2004.

Samuel Bowles and Herbert Gintis. *A cooperative species: Human reciprocity and its evolution*. Princeton University Press, 2011.

Carlos Bozzoli, Tilman Brück, and Tony Muhumuza. Activity choices of internally displaced persons and returnees: Quantitative survey evidence from post-war northern Uganda. HiCN Working Paper Series, 2011.

Carlos Bozzoli, Tilman Brück, and Nina Wald. Self-employment and conflict in Colombia. *Journal of Conflict Resolution*, 57(1):117–142, 2013. doi: 10.1177/0022002712464849. URL `http://jcr.sagepub.com/content/57/1/117.abstract`.

Paul R Brass. *Theft of an idol: Text and context in the representation of collective violence*. Princeton University Press, 1997.

Tilman Brück. Mozambique: the economic effects of the war. *War and underdevelopment*, 2:56–88, 2001.

Karen Buerkle and Alya Guseva. What do you know, who do you know?: School as a site for the production of social capital and its effects on income attainment in Poland and the Czech Republic. *American Journal of Economics and Sociology*, 61(3):657–680, 2002.

Ronald S. Burt. *Brokerage and Closure: An Introduction to Social Capital*. Oxford University Press Inc., New York, 2005.

Valentina Calderón and Ana María Ibáñez. Labour market effects of migration-related supply shocks: Evidence from internally displaced populations in Colombia. MICROCON Working Paper 14, June 2009.

Valentina Calderón, Margarita Gáfaro, and Ana María Ibáñez. Forced migration, female labour force participation, and intra-household bargaining: Does conflict empower women? MICROCON Working paper, November 2011.

Antoni Calvó-Armengol. Job contact networks. *Journal of economic Theory*, 115(1): 191–206, 2004.

Antoni Calvó-Armengol and Yves Zenou. Job matching, social network and word-of-mouth communication. *Journal of urban economics*, 57(3):500–522, 2005.

Alessandra Cassar, Pauline Grosjean, and Sam Whitt. Legacies of violence: trust and market development. *Journal of Economic Growth*, 18(3):285–318, 2013.

Marco Castillo, Michael Carter, et al. Behavioral responses to natural disasters. Unpublished Manuscript, 2011.

Census Organization of India. 2011 Indian National Census. Technical report, Census Organization of India, 2011.

Jad Chaaban, Hala Ghattas, Rima Habib, Sari Hanafi, Nadine Sahyoun, Nisreen Salti, Karin Seyfert, and Nadia Naamani. Socio–economic survey of palestinian refugees in lebanon. Technical report, American University of Beirut (AUB) and United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), 2010.

Gary Chamberlain. Panel data. In Zvi Griliches and Michael Intriligator, editors, *Handbook of Econometrics*, volume 2, chapter 22, pages 1247 – 1318. Elsevier, 1984. doi: http://dx.doi.org/10.1016/S1573-4412(84)02014-6. URL `http://www.sciencedirect.com/science/article/pii/S1573441284020146`.

William G. Cochran. *Sampling Techniques*. John Wiley and sons, Inc., 3rd edition, 1977.

James S. Coleman. Social capital in the creation of human capital. *American Journal of Sociology*, 94:S95–S120, 1988.

James Samuel Coleman. *Foundations of social theory*. Belknap Press of Harvard University Press, Cambridge, Mass, London, 1990. Bibliography: p. 951-971. James S.Coleman.

Nat J. Colletta and Michelle L. Cullen. *Violent conflict and the transformation of social capital: lessons from Cambodia, Rwanda, Guatemala, and Somalia*. Conflict prevention and post-conflict reconstruction. The World Bank, Washington D. C., 2000.

Paul Collier. Post-conflict recovery: How should strategies be distinctive? *Journal of African Economies*, 2009.

Paul Collier and Anke Hoeffler. Greed and grievance in civil war. *Oxford Economic Papers*, 56(4):563–595, 2004. ISSN 00307653, 14643812. URL `http://www.jstor.org/stable/3488799`.

Paul Collier et al. *Breaking the conflict trap: Civil war and development policy*. World Bank Publications, 2003.

Christopher Cramer. *Civil war is not a stupid thing : accounting for violence in developing countries*. London : Hurst & Co., London, 2006.

Partha Dasgupta and Ismail Serageldin. *Social Capital: A Multifaceted Perspective*. The World Bank, Washington, D.C., 2002.

Giacomo De Luca and Marijke Verpoorten. From vice to virtue? civil war and social capital in Uganda. LICOS Discussion Paper, 2011.

Angus Deaton and Jean Dreze. Poverty and inequality in India: A re-examination. *Economic and Political Weekly*, 37(36):3729–3748, 2002. ISSN 00129976, 23498846. URL `http://www.jstor.org/stable/4412578`.

Klaus Deininger, Ana María Ibáñez, and Pablo Querubin. Towards sustainable return policies for the displaced population: Why are some displaced households more willing to return than others? HiCN Working Paper Series, 2004.

Graciana del Castillo and Joanne J Myers. Rebuilding war-torn states: The challenge of post-conflict economic reconstruction, 2010.

Denise DiPasquale and Edward L. Glaeser. Incentives and social capital: Are homeowners better citizens? *Journal of Urban Economics*, 45(2):354 – 384, 1999. ISSN 0094-1190. doi: http://dx.doi.org/10.1006/juec.1998.2098. URL `http://www.sciencedirect.com/science/article/pii/S0094119098920988`.

M. Dumper. *Palestinian Refugee Repatriation: Global Perspectives*. Routledge, 2006.

Emile Durkheim. The elementary forms of the religious life. *New York*, 1915.

Steven Durlauf. Groups, social influences, and inequality. *Poverty traps*, pages 141–175, 2006.

Steven N Durlauf. On the empirics of social capital. *The economic journal*, 112(483): F459–F479, 2002.

Atle Dyregrov, Rolf Gjestad, and Magne Raundalen. Children exposed to warfare: A longitudinal study. *Journal of traumatic stress*, 15(1):59–68, 2002.

William Easterly, Jozef Ritzen, and Michael Woolcock. Social cohesion, institutions, and growth. *Economics & Politics*, 18(2):103–120, 2006.

Joan Esteban and Debraj Ray. Polarization, fractionalization and conflict. *Journal of Peace Research*, 45(2):163–182, 2008. ISSN 00223433. URL `http://www.jstor.org/stable/27640648`.

Marcel Fafchamps and Susan Lund. Risk-sharing networks in rural Philippines. *Journal of development Economics*, 71(2):261–287, 2003.

Manuel Fernández, Ana María Ibáñez, and Ximena Peña. Adjusting the labour supply to mitigate violent shocks: Evidence from rural Colombia. *Journal of Development Studies*, 50(8), 2014.

Nathan Fiala. Economic consequences of forced displacement. *The Journal of Development Studies*, 51(10):1275–1293, 2015. doi: 10.1080/00220388.2015.1046446. URL `http://dx.doi.org/10.1080/00220388.2015.1046446`.

Janet Finch. The vignette technique in survey research. *Sociology*, pages 105–114, 1987.

Francis. Fukuyama. *Trust: the social virtues and the creation of prosperity*. Penguin, London, 1996.

Jose Galdo. The long-run labor-market consequences of civil war: Evidence from the shining path in Peru. *Economic Development and Cultural Change*, 61(4):789–823, 2013.

Diego Gambetta. *Trust: making and breaking cooperative relations*. New York : Blackwell, New York, 1988.

Roy Gardner, Elinor Ostrom, and James M Walker. The nature of common-pool resource problems. *Rationality and Society*, 2(3):335–358, 1990.

Clark Gibson, Krister Andersson, Elinor Ostrom, and Sujai Shivakumar. *The samaritan's dilemma: The Political Economy of Development Aid*. Oxford University Press, 2005.

Michael J. Gilligan, Benjamin J. Pasquale, and Cyrus Samii. Civil war and social cohesion: Lab-in-the-field evidence from nepal. *American Journal of Political Science*, 58(3):604–619, 2014. ISSN 1540-5907. doi: 10.1111/ajps.12067. URL `http://dx.doi.org/10.1111/ajps.12067`.

Edward L. Glaeser, José A. Scheinkman, and Andrei Shleifer. Economic growth in a cross-section of cities. *Journal of Monetary Economics*, 36(1):117 – 143, 1995. ISSN 0304-3932. doi: http://dx.doi.org/10.1016/0304-3932(95)01206-2. URL `http://www.sciencedirect.com/science/article/pii/0304393295012062`.

Edward L. Glaeser, David Laibson, and Bruce Sacerdote. An economic approach to social capital. *Economic Journal*, 112(483):437–458, 2002.

Mark Granovetter. Economic action and social structure: The problem of embeddedness. *American journal of sociology*, pages 481–510, 1985.

Mark S. Granovetter. *Getting a job: a study of contacts and careers*. Harvard U.P, 1974. (by) M. S. Granovetter.

Christiaan Grootaert and Thierry van Bastelaer. *Understanding and Measuring Social Capital: A Multidisciplinary Tool for Practitioners*. World Bank, 2002.

International Crisis Group. Lebanon's Palestinian dilemma: The struggle over Nahr al-Bared. Middle East Report 117, March 2012.

Jaideep Gupte, Patricia Justino, and Jean-Pierre Tranchant. Households amid urban riots the economic consequences of civil violence in India. *Journal of Conflict Resolution*, 2014.

James Habyarimana, Macartan Humphreys, Daniel N Posner, and Jeremy M Weinstein. Why does ethnic diversity undermine public goods provision? *American Political Science Review*, 101(4):709, 2007.

James P. Habyarimana. *Coethnicity: Diversity and the Dilemmas of Collective Action*. Russell Sage Foundation, 2009.

L. J. Hanifan. The rural school community center. *Annals of the American Academy of Political and Social Science*, 67(Sep., 1916):130–138, 1916.

Richard. Harker, Chris. Wilkes, and Cheleen. Mahar. *An introduction to the work of Pierre Bourdieu: the practice and theory*. Macmillan, London, 1990. edited by Richard Harker, Cheleen Mahar and Chris Wilkes.

K.B. Harpviken. *Social Networks and Migration in Wartime Afghanistan*. Palgrave Macmillan, 2009.

Ismael Sheikh Hassan and Sari Hanafi. (in) security and reconstruction in post-conflict nahr al-barid refugee camp. *Journal of Palestine Studies*, 40(1):27–48, 2010.

Karla Hoff and Arijit Sen. The kin system as a poverty trap? In Samuel Bowles, Steven N Durlauf, and Karla Hoff, editors, *Poverty traps*. Princeton University Press, 2006.

Elizabeth Hoffman, Kevin McCabe, and Vernon L Smith. Social distance and other-regarding behavior in dictator games. *The American Economic Review*, 86(3):653–660, 1996.

Harry J. Holzer. Search method use by unemployed youth. *Journal of Labor Economics*, 6(1):1–20, 1988. ISSN 0734306X, 15375307. URL `http://www.jstor.org/stable/2534865`.

Macartan Humphreys and Jeremy M Weinstein. Demobilization and reintegration. *Journal of conflict resolution*, 51(4):531–567, 2007.

Macartan Humphreys and Jeremy M. Weinstein. Who fights? the determinants of participation in civil war. *American Journal of Political Science*, 52(2):436–455, 2008. ISSN 1540-5907. doi: 10.1111/j.1540-5907.2008.00322.x. URL `http://dx.doi.org/10.1111/j.1540-5907.2008.00322.x`.

Jean-Marie Huriot and Jacques-François Thisse. *Economics of cities: Theoretical perspectives*. Cambridge University Press, 2000.

Ana María Ibáñez and Andrés Moya. Do conflicts create poverty traps? Asset losses and recovery for displaced households in Colombia. In *The Economics of Crime: Lessons for and from Latin America*, pages 137–172. University of Chicago Press, 2010.

ILO. International standard classification of occupations: Structure, group definitions and correspondence tables. Technical Report Volume 1, International Labour Office, Geneva, 2012.

Christophe Jaffrelot. The 2002 pogrom in Gujarat: The post–9/11 face of Hindu nationalist anti–Muslim violence. *Religion and Violence in South Asia*, pages 173–92, 2006.

Patricia Justino. War and poverty. IDS Working Papers, 2012.

Patricia Justino and Philip Verwimp. Poverty dynamics, violent conflict, and convergence in Rwanda. *Review of income and wealth*, 59(1):66–90, 2013.

Gaim Kibreab. When refugees come home: The relationship between stayees and returnees in post-conflict Eritrea. *Journal of Contemporary African Studies*, 20(1):53–80, 2002.

Stephen Knack and Philip Keefer. Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*, 112(4):1251–1288, 1997.

John Knight and Linda Yueh. The role of social capital in the labour market in China. *Economics of transition*, 16(3):389–414, 2008.

Florence Kondylis. Agricultural outputs and conflict displacement: Evidence from a policy intervention in Rwanda. *Economic Development and Cultural Change*, 57(1):31–66, 2008. ISSN 00130079, 15392988. URL `http://www.jstor.org/stable/10.1086/590446`.

Florence Kondylis. Conflict displacement and labor market outcomes in post-war Bosnia and Herzegovina. *Journal of Development Economics*, 93(2):235–248, 2010.

Rachel E Kranton. The formation of cooperative relationships. *Journal of Law, Economics, and organization*, 12(1):214–233, 1996.

Daniel Lederman, Norman Loayza, and Ana Maria Menendez. Violent crime: Does social capital matter? *Economic Development and Cultural Change*, 50(3):509–539, 2002.

Peter Loizos. Are refugees social capitalists? In S. R. (Stephen R.) Baron, John Field, and Tom Schuller, editors, *Social capital: Critical perspectives*, pages 124–141. Oxford University Press: Oxford, 2000.

Glenn Loury et al. A dynamic theory of racial income differences. *Women, minorities, and employment discrimination*, 153:86–153, 1977.

John Maluccio, Lawrence Haddad, and Julian May. Social capital and household welfare in South Africa, 1993–98. *The Journal of Development Studies*, 36(6):54–81, 2000.

Gerald Marwell, Pamela E. Oliver, and Ralph Prahl. Social networks and collective action: A theory of the critical mass. *American Journal of Sociology*, 94(3):502–534, 1988.

Benjamin Marx, Thomas Stoker, and Tavneet Suri. The economics of slums in the developing world. *The Journal of Economic Perspectives*, 27(4):187–210, 2013.

JM Matowu and Frances Stewart. Uganda: the social and economic costs of conflict. *War and Underdevelopment*, 2:240–303, 2001.

Dipak Mazumdar. Rural-urban migration in developing countries. In *Urban Economics*, volume 2 of *Handbook of Regional and Urban Economics*, chapter 28, pages 1097 – 1128. Elsevier, 1987. doi: http://dx.doi.org/10.1016/S1574-0080(87)80014-7. URL `http://www.sciencedirect.com/science/article/pii/S1574008087800147`.

Nidhiya Menon and Yana van der Meulen Rodgers. War and women's work evidence from the conflict in Nepal. *Journal of Conflict Resolution*, 59(1):51–73, 2015.

Maren M. Michaelsen. Mental health and labour supply – evidence from Mexico's ongoing violent conflicts. Ruhr Economic Paper No. 378, October 2012.

Bauer Michal, Alessandra Cassar, Julia Chytilová, and Joseph Henrich. Warfare during ontogeny increases egalitarian and parochial motivations. Working paper, 2011.

Edward Miguel and Mary Kay Gugerty. Ethnic diversity, social sanctions, and public goods in Kenya. *Journal of public Economics*, 89(11):2325–2368, 2005.

Edward Miguel, Sebastián M Saiegh, and Shanker Satyanath. Civil war exposure and violence. *Economics & Politics*, 23(1):59–73, 2011.

James D Montgomery. Social networks and labor-market outcomes: Toward an economic analysis. *The American economic review*, pages 1408–1418, 1991.

Caroline ON Moser and Cathy McIlwaine. *Urban poor perceptions of violence and exclusion in Colombia*. World Bank Publications, 2000.

Christophe Muller and Marc Vothknecht. Group violence, ethnic diversity, and citizen participation: Evidence from indonesia. Working Paper, July 2011.

Yair Mundlak. On the pooling of time series and cross section data. *Econometrica: journal of the Econometric Society*, pages 69–85, 1978.

Kaivan Munshi. Networks in the modern economy: Mexican migrants in the US labor market. *The Quarterly Journal of Economics*, pages 549–599, 2003.

Deepa Narayan and Michael F. Cassidy. A dimensional approach to measuring social capital: Development and validation of a social capital inventory. *Current Sociology*, 49 (2):59–102, 2001.

Deepa Narayan and Lant Pritchett. Cents and sociability: Household income and social capital in rural Tanzania. *Economic development and cultural change*, 47(4):871–897, 1999.

Steven L Nock and Peter H. (Peter Henry) Rossi. *Measuring Social Judgments : the Factorial Survey Approach*. Sage, 1982.

Douglass Cecil. North. *Institutions, institutional change and economic performance*. Cambridge University Press, Cambridge, 1990. (by) Douglass Cecil North.

Mancur Olson. *The logic of collective action : public goods and the theory of groups*. Cambridge, Mass., Cambridge, Mass., 1995.

Elinor Ostrom. Social capital: a fad or a fundamental concept. In Partha Dasgupta and Ismail Serageldin, editors, *Social capital: A multifaceted perspective*, pages 195–98. Washington DC: World Bank, 2001.

Elinor Ostrom, Joanna Burger, Christopher B. Field, Richard B. Norgaard, and David Policansky. Revisiting the commons: Local lessons, global challenges. *Science*, 284 (5412):278–282, 1999.

Gianmarco I. P. Ottaviano and Giovanni Peri. Rethinking the effect of immigration on wages. *Journal of the European Economic Association*, 10(1):152–197, 2012. ISSN 1542-4774. doi: 10.1111/j.1542-4774.2011.01052.x. URL `http://dx.doi.org/10.1111/j.1542-4774.2011.01052.x`.

Shanley Pinchotti and Philip Verwimp. Social capital and the Rwandan genocide: A micro-level analysis. HiCN Working Paper Series, 2007.

Alejandro Portes. Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24:1–24, 1998.

Robert Putnam. *Bowling Alone: The Collapse and Revival of the American Community.* Simon and Schuster Paperbacks, New York, 2000.

Robert D. Putnam, Robert Leonardi, and Raffaella. Nanetti. *Making democracy work: civic traditions in modern Italy.* Princeton University Press, Princeton, N.J, 1994a.

Robert D Putnam, Robert Leonardi, and Raffaella Y Nanetti. *Making democracy work: Civic traditions in modern Italy.* Princeton university press, 1994b.

Adam Ramadan. Destroying Nahr el-Bared: Sovereignty and urbicide in the space of exception. *Political Geography*, 28(3):153–163, 2009.

Adam Ramadan. In the ruins of Nahr al-Barid: Understanding the meaning of the camp. *Journal of Palestine Studies*, 40(1):49–62, 2010.

Usha Ramanathan. Illegality and the urban poor. *Economic and Political Weekly*, 41(29): 3193–3197, 2006. ISSN 00129976, 23498846. URL `http://www.jstor.org/stable/4418470`.

Dominic Rohner, Mathias Thoenig, and Fabrizio Zilibotti. Seeds of distrust: Conflict in Uganda. *Journal of Economic Growth*, 18(3):217–252, 2013.

Rosemary Sayigh. The struggle for survival: The economic conditions of Palestinian camp residents in Lebanon. *Journal of Palestine Studies*, 7(2):101–119, 1978.

Rosemary Sayigh. Palestinians in lebanon: Harsh present, uncertain future. 25(1):37, 1995. doi: 10.2307/2538103.

Thomas C. Schelling. *The strategy of conflict.* Cambridge, Mass. : Harvard University, Cambridge, Mass., 1969.

Maurice Schiff. Social capital, labor mobility, and welfare. *Rationality and Society*, 4(2): 157–175, 1992.

Jeremy Seekings. The continuing salience of race: Discrimination and diversity in south africa. *Journal of contemporary African studies*, 26(1):1–25, 2008.

Juliet Popper Shaffer. Multiple hypothesis testing. *Annual Review of Psychology*, 46:561, 1995.

Olga Shemyakina. The labor market, education and armed conflict in Tajikistan. World Bank Policy Research Working Paper No. 5738, July 2011a.

Olga Shemyakina. The effect of armed conflict on accumulation of schooling: Results from Tajikistan. *Journal of Development Economics*, 95(2):186 – 200, 2011b. ISSN 0304-3878. doi: http://dx.doi.org/10.1016/j.jdeveco.2010.05.002. URL `http://www.sciencedirect.com/science/article/pii/S0304387810000441`.

Joel Sobel. Can we trust social capital? *Journal of Economic Literature*, 40(1):139–154, 2002.

Bellur Narayanaswamy Srikrishna. Srikrishna commission report. Technical Report Chapter 2, Srikrishna Commission, https://web.archive.org/web/20070311020056/http://www.hvk.org/specialrepo/skc/skcch2.html, 1998.

James H Stock, Jonathan H Wright, and Motohiro Yogo. A survey of weak instruments and weak identification in generalized method of moments. *Journal of Business & Economic Statistics*, 20(4):518–529, 2015/03/05 2002. doi: 10.1198/073500102288618658. URL `http://dx.doi.org/10.1198/073500102288618658`.

Kai M. Thaler. Norms about intimate partner violence among urban South Africans: A quantitative and qualitative vignette analysis. Unpublished working paper, 2014.

UN. 2014 revision of world urbanization prospects. Technical report, The Population Division of the Department of Economic and Social Affairs of the United Nations, 2015.

UN–Habitat. The challenge of slums: Global report on human settlements. Technical report, United Nations Human Settlements Programme, 2003.

UN–Habitat. Habitat III issue papers: Inclusive cities. Technical report, United Nations Human Settlements Programme, 2015.

UN-Habitat's Global Urban Observatory. Un-habitat urban data. Dataset, April 2016.

UNHCR. UNHCR global report 2014. Technical report, UNHCR, 2014.

UNRWA. Relief and early recovery appeal for Nahr el-Bared Camp. Technical report, Lebanon Field Office, 2008a.

UNRWA. Nahr El Bared camp emergency appeal progress report. Technical report, United Nations Relief and Works Agency Organisation for Palestine Refugees in the Near East, 2008b.

Norman Uphoff. Understanding social capital: Learning from the analysis and experience of participation. In Partha Dasgupta and Ismail Serageldin, editors, *Social Capital: A Multifaceted Perspective*. The World Bank, Washington, D.C., 2002.

Sweta Chaman Saxena Valerie Cerra. Growth dynamics: The myth of economic recovery. *The American Economic Review*, 98(1):439–457, 2008. ISSN 00028282. URL `http://www.jstor.org/stable/29729978`.

Ashutosh Varshney. Ethnic conflict and civil society: India and beyond. *World Politics*, 53(3):362–398, 2001.

Ashutosh Varshney. *Ethnic conflict and civic life: Hindus and Muslims in India*. New Haven, Conn., New Haven, Conn., 2002.

Ashutosh Varshney. Understanding Gujarat violence. *Contemporary Conflicts*, 2004.

Philip Verwimp and Juan Carlos Muñoz Mora. Returning home after civil war: Food security, nutrition and poverty among Burundian households. HiCN working paper series, 2013.

Jacob L Vigdor. Community composition and collective action: Analyzing initial mail response to the 2000 census. *Review of Economics and Statistics*, 86(1):303–312, 2004.

Maarten J. Voors, Eleonora E. M. Nillesen, Philip Verwimp, Erwin H. Bulte, Robert Lensink, and Daan P. Van Soest. Violent conflict and behavior: A field experiment in Burundi. *American Economic Review*, 102(2):941–64, 2012.

Jackline Wahba and Yves Zenou. Density, social networks and job search methods: Theory and application to Egypt. *Journal of Development Economics*, 78(2):443–473, 2005.

Sam Whitt and Rick K Wilson. The dictator game, fairness and ethnicity in postwar bosnia. *American Journal of Political Science*, 51(3):655–668, 2007.

Steven I Wilkinson. Votes and violence: Ethnic competition and ethnic riots in India, 2004.

Steven I Wilkinson. Communal riots in India. *Economic and Political Weekly*, 40(44/45): 4768–4770, 2005.

Steven I. Wilkinson. Riots. *Annual Review of Political Science*, 12(1):329–343, 2009. doi: 10.1146/annurev.polisci.12.041307.075517. URL `http://dx.doi.org/10.1146/annurev.polisci.12.041307.075517`.

Elisabeth Jean Wood. *Insurgent collective action and civil war in El Salvador*. Cambridge University Press, 2003.

Michael Woolcock. Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society*, 27(2):151–208, 1998.

Jeffrey M. Wooldridge. *Econometric analysis of cross section and panel data*. Cambridge, Mass. : MIT Press, 2010.